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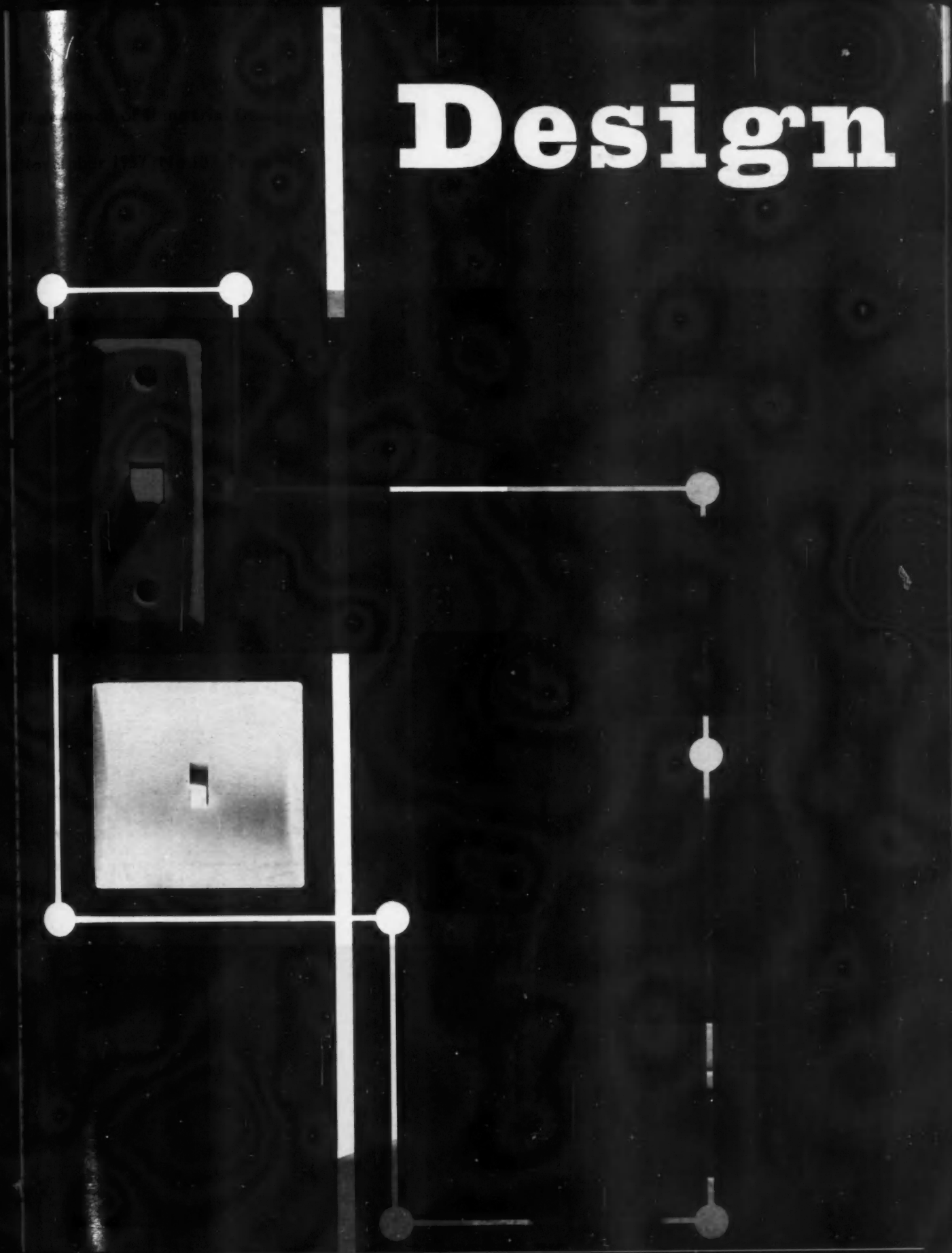

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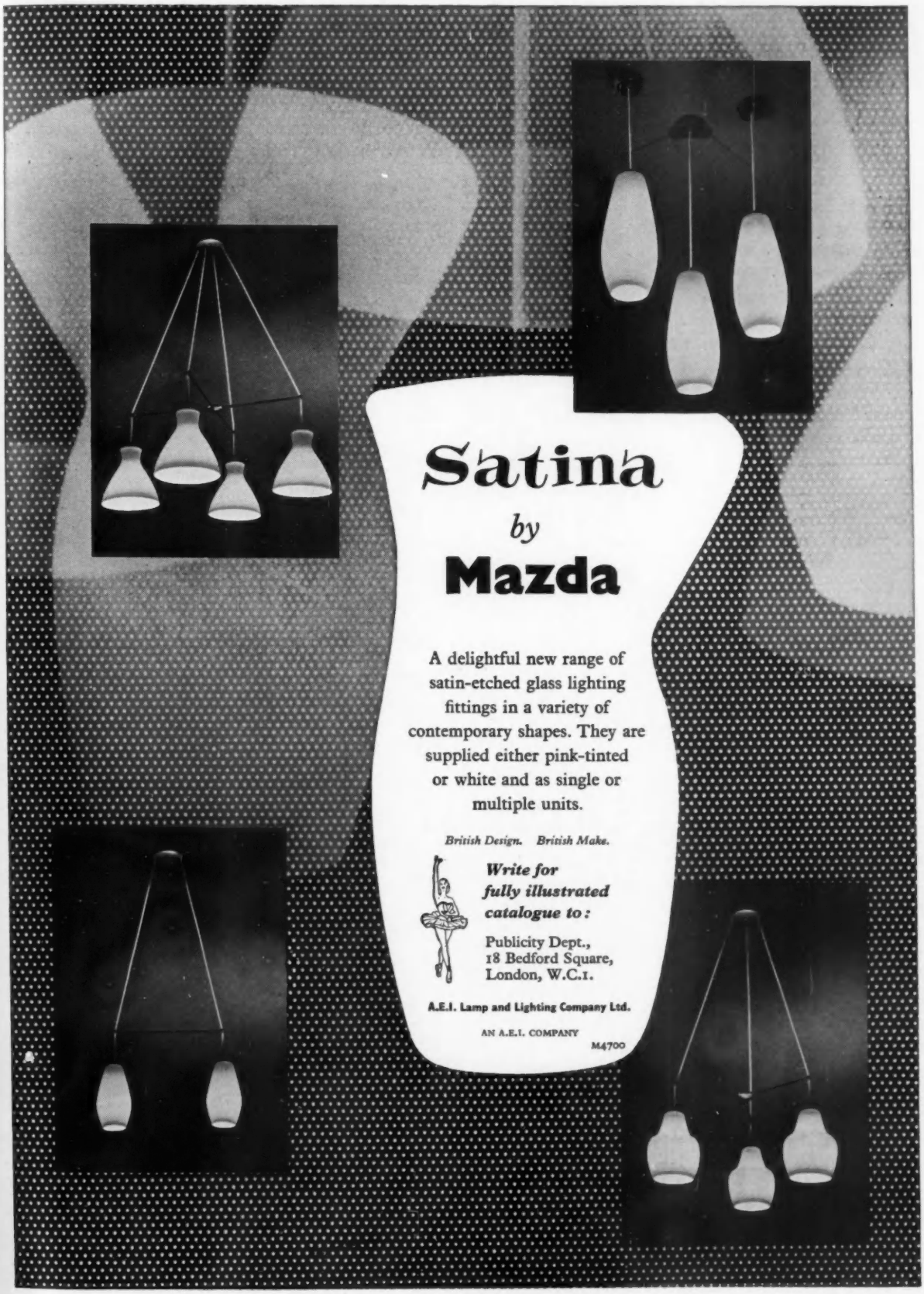
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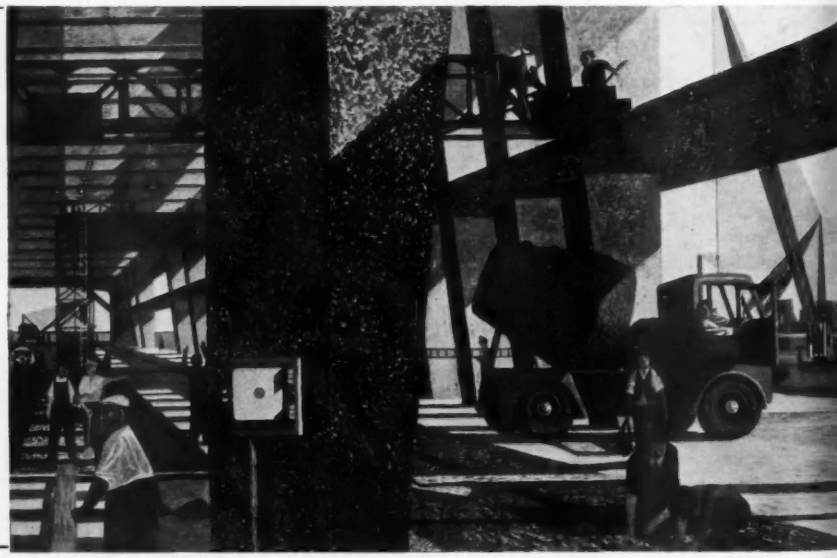

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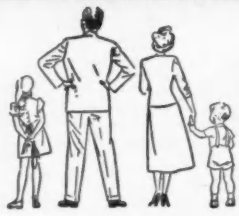

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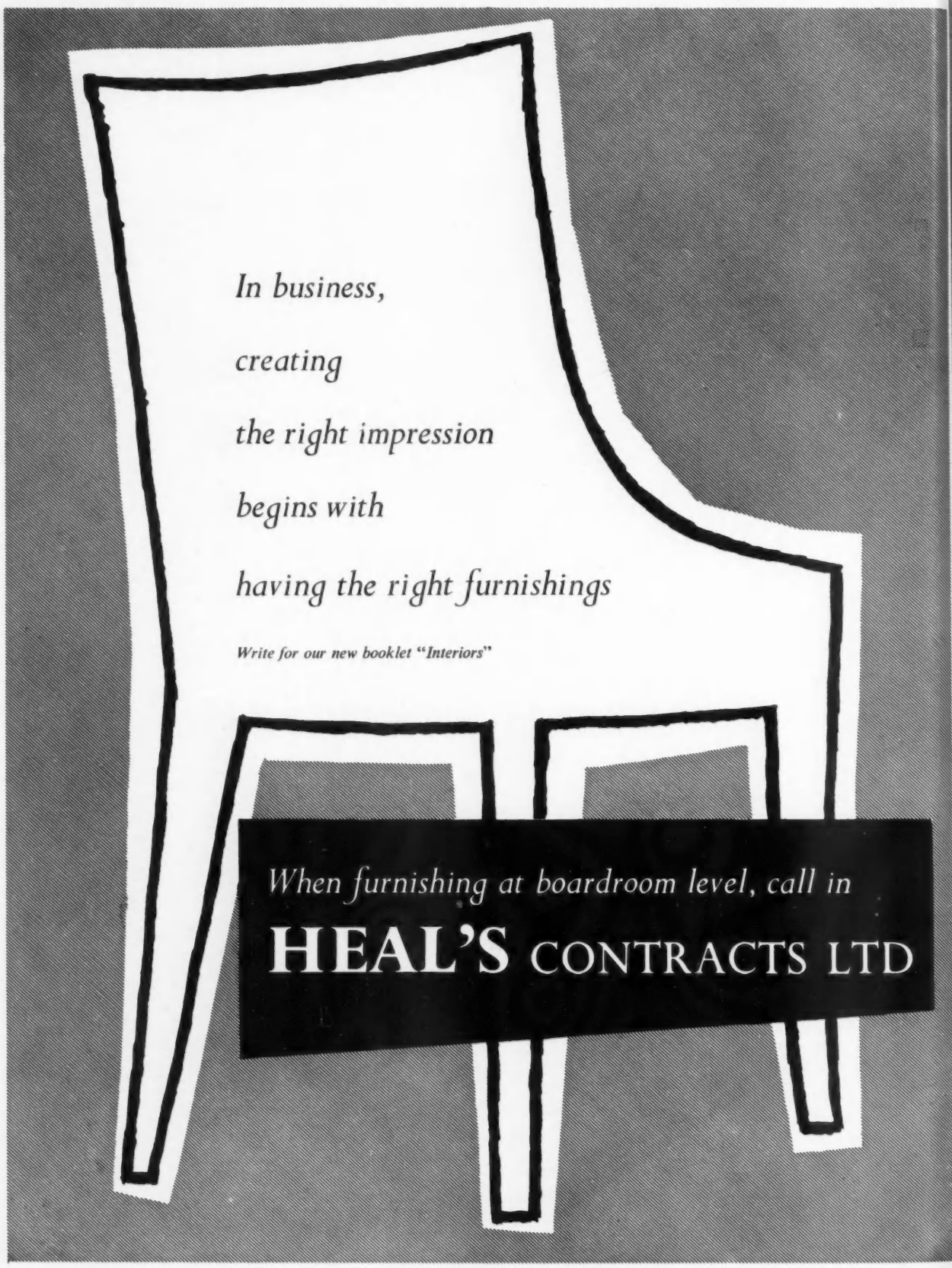
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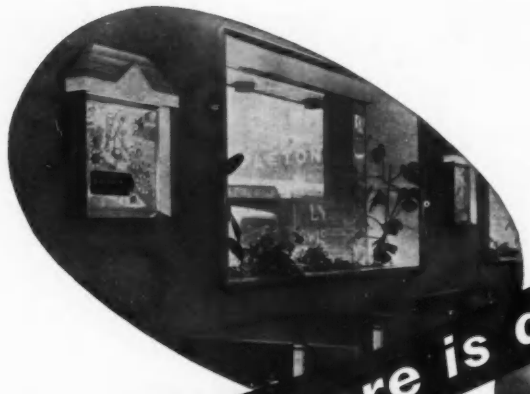

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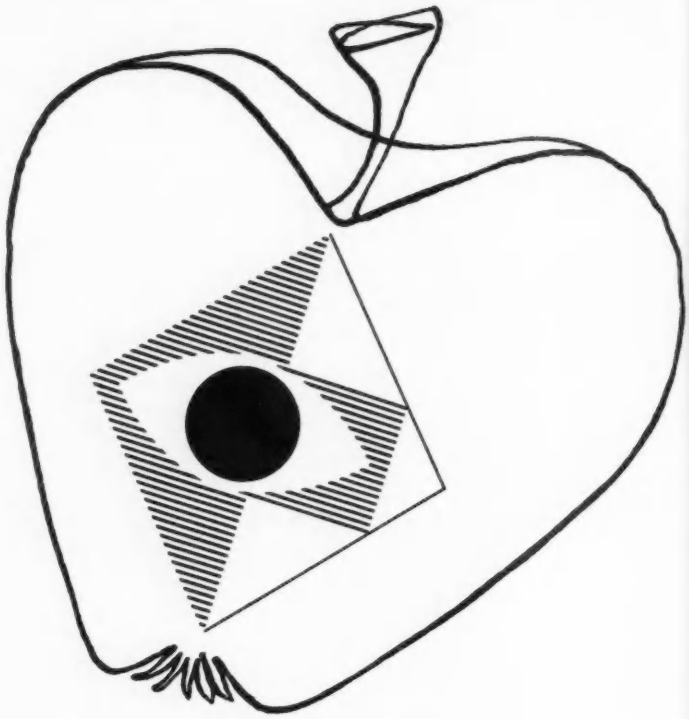

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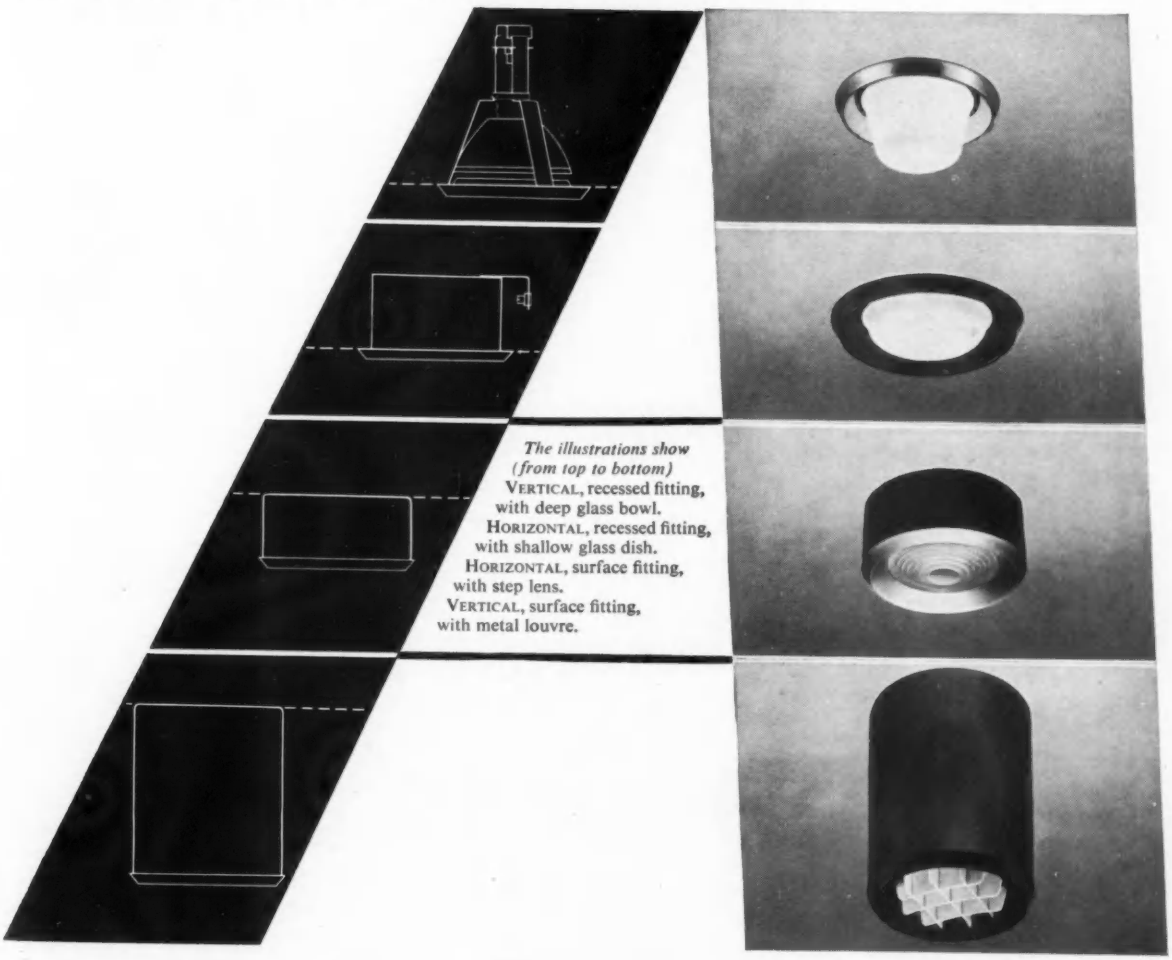

The illustrations show (from top to bottom)
VERTICAL, recessed fitting, with deep glass bowl.
HORIZONTAL, recessed fitting, with shallow glass dish.
HORIZONTAL, surface fitting, with step lens.
VERTICAL, surface fitting, with metal louvre.

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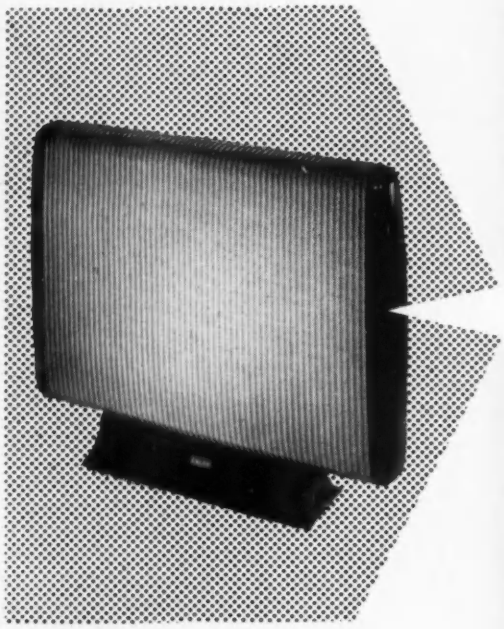
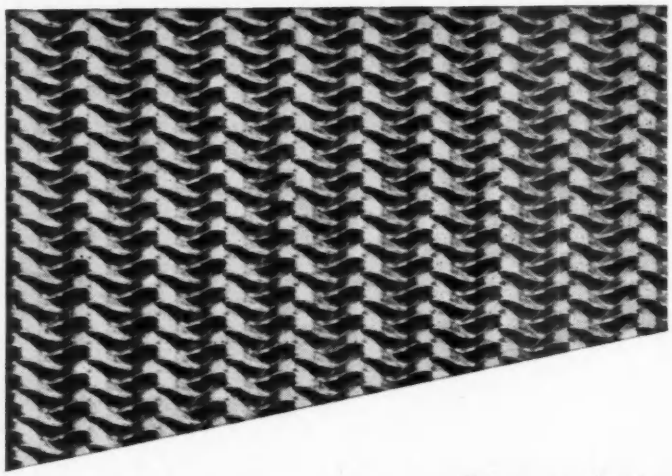
Creda Capri heater by Simplex Electric Co. Ltd.





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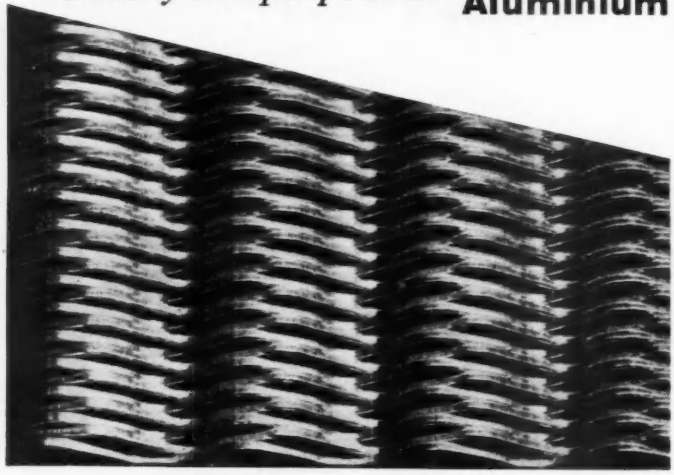

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PROFILE OF A CREATIVE MIND

No. 5 *Wood Carver*

In an age celebrated for its designers and carvers, the wonderful talents of Grinling Gibbons (1648-1720) set him apart as a wood carver. Master Carver in Wood to the Crown, Gibbons also did much work for Wren, including the choir stalls of St. Paul's Cathedral.

The art of Gibbons's wood carving was unprecedented for the freedom and delicacy with which it developed. His speciality — executed with elaborate taste — lay in carving pendent groups and festoons of flowers, fruit, game and other ornaments. These he copied faithfully from nature, life-size. Though his work provoked controversy as to the suitability of carving in such high relief and with such free undercutting, Gibbons was often imitated but never surpassed. He generally chose limewood for his groups and festoons, oak for church panels, boxwood or pearwood for medallions. Truthfulness and variety in design, coupled with a keen sense of decoration, made Gibbons a great artist.

In I.C.I., creative minds are constantly searching for new products and processes, and for improvement to existing ones.

ICI

Number 107

November 1957

Design

Manufacturers are invited to consult the Council of Industrial Design's

RECORD OF DESIGNERS

a free service of recommendation and introduction of designers to industry

CONTENTS

The addresses of manufacturers in this issue are on page 79

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The case for a brief

INDUSTRY IS MAKING USE OF MORE TRAINED DESIGNERS. Until recently most manufacturers were in two minds whether the professional designer had more than a temporary role in the hierarchy. Those responsible for producing designs were usually technical experts of various kinds or promoted draughtsmen. That is less true now. More firms, in one way or another, are relying on qualified designers, either on their staff or as consultants. Some measure of this change in attitude is shown by the steady increase in manufacturers' requests for recommendations from the CoID's Record of Designers; 314 in 1950, 516 in 1955, 611 in 1956, and in the first half of this year 317.

The main problem now is the effective integration of the professional designer into industry so that both parties gain the maximum satisfaction. This was discussed in some detail at the CoID's International Design Congress last year when it was made clear that there could be no standard formula which management can apply to the organisation of design departments; products, processes and scale of operation are far too varied. The main conclusion then was that the head designer must be of a status at or near board level, and that the organisation must treat designing as a matter of teamwork.

It is hazardous to generalise further, but there is one aspect which affects every type of firm. Each designer must have a brief, and to a large extent the efficiency with which he can produce the goods will depend on the clarity and completeness of the initial exposition. Some manufacturers blame the designer too readily when the early results are not to their liking, although lack of initial success is perhaps due to a casual and inadequate brief. In the preparation of a brief the designer himself can assist from the earliest stages. It should define broadly the nature of the product, its price bracket, its market and the skills and processes available. On the other hand it will not attempt to design the product or apply needless limitations or preconceptions which would diminish its quality or life. Ideally all the essential limiting factors will be stated at the outset, rather than introduced seriatim at various stages of production to the discomfort of the designer.

That done the designer needs scope and encouragement. It is then up to him to grapple with the problem from his own standpoint, free from second hand notions and prejudices. Indeed he may serve his firm better if his solution is a departure from the conventional towards a more convenient and attractive product, rather than a variation on a threadbare theme.

For both the manufacturer and the designer the easy way out is to do, with a superficial difference, what was done before. But, clear and thorough thinking is one of those exhausting processes which is as essential to management in setting out a brief, as it is to the designer in finding the solution.

J. N. W.

Designers' show at The Design Centre

From now until November 9 the 'S I A Textiles' exhibition is on view in The Design Centre. All the fabrics, carpets and wallpapers have been designed by 40 members of the S I A textile group. One of the outstanding exhibits, shown above, is a black on cotton satin wall drape, designed on to the screen and printed by Anne Loosely, shown above, for a 25-ft window span in Patrick Gwynne's modern house in Surrey. The corn dollies, survivals from a prehistoric culture, are imaginatively related in a repeating pattern that celebrates the goddess of fertility.

Design for European trade

The need for increasing Britain's hold on trade in Europe is now urgent. Next January the Common Market will be formed: before long the composition of the Free Trade Area will be decided. The dominant role to be played by design is discussed in the following article.

TER TENNANT
uthor of this article is Overseas ctor, Federation of British Industries

AS THIS ARTICLE goes to press, the state of play on the Common Market, or the European Economic Community as it is called in the Treaty of Rome, is that the treaty, which was signed on March 25, has now been ratified by the parliaments of France, Western Germany and Italy. Assuming that Belgium, the Netherlands and Luxemburg will have ratified before the end of the year, the treaty will come into operation on January 1, 1958. This will mean that in the course of 1958 the institutions prescribed in the treaty will be set up (the Council of Ministers, the Assembly, the European Commission, the Court of Justice, etc,) and that on January 1, 1959, the first effects of the treaty will become apparent. Customs duties between the six countries will be cut by 10 per cent and all quotas will be made global – a first contribution to the total abolition of customs duties and quantitative restrictions between the six over a period of 12 to 15 years.

In the same period these six countries with their overseas territories will form themselves into a full customs union by substituting for their own tariffs against the rest of the world a common tariff wall, the height of which would be calculated on the arithmetical mean of the tariffs applied by each of the six countries on January 1, 1956. The result of this will be a common tariff round all the six countries and no tariff between them. While the tariff wall for an outsider in the case of a low tariff country like the Netherlands (at present our best European market) will be higher, it will be lower in the case of a high tariff country like France or Italy.

But the European Community is far more than a mere customs union. It was conceived and is likely to be implemented as a political concept. It was the overriding desire for the political unification of Europe which brought it about and this explains not only the considerable economic sacrifices consented to by its signatories, but also many of the apparent economic inconsistencies which it contains. As a result, the greater part of the treaty deals not with practical measures for bringing about a customs union, but with intentions in the whole field of economic, social, financial, monetary and fiscal policy, which it will be the task of the projected institutions to implement, with a view to achieving ultimate unity over the whole. In the end we shall see the six countries combining in one market and one area of production, with the individual countries differing no more from one another than do the constituent units of the United Kingdom. What is thus achieved by political means in the economic field is likely in the end to lead to the complete political and strategic unification of the countries concerned.

Relations with outsiders

The Free Trade Area, on the other hand, originates in economic rather than in political thinking. Some European countries, for one reason or another (United Kingdom's Commonwealth ties, Swiss, Swedish and Austrian neutrality, etc), could not commit themselves to an erosion of national sovereignty. The Free Trade Area is conceived as a means whereby these countries might co-operate technically with the six in lessening trade barriers and particularly in the abolition of tariff and quantitative restrictions according to a common timetable. The ultimate picture would be one of a Common Market of the six with its institutions being embraced by an outer Free Trade Area, freer trade gradually developing between the six and the others; the differences being that the six would set up a common tariff to the outside world while the Free Trade Area countries would retain their own individual tariffs, and that the six would work through their common institutions while the Free Trade Area countries would work through their individual governments.

The OEEC would probably provide the necessary institutional link between all the countries concerned to see that the code of fair trade and the agreed procedures were obeyed. The organisation would probably have to modify its rules of working by unanimous consent, by adopting in specific fields a majority voting procedure in order to exercise discipline. The very debatable question in all this is the British suggestion that agriculture should be left out of a Free Trade Area, and not included, as is the case with the six countries in the European Economic Community. The British Government made this proposal because it wishes quite naturally to retain the important link of imperial preference with the Commonwealth; a link which has been forged by the reciprocal benefit of duty-free entry for Commonwealth products into the British market

Design for European trade

A heavy black line encloses the six countries in the Common Market. The dark tint indicates the proposed Free Trade Area. The light tint indicates possible participants in the Free Trade Area.

(largely agricultural), in return for preferential duties on United Kingdom exports to the Commonwealth (largely manufactures). Also the Government wishes, as long as it may be necessary, for strategic or economic reasons to be free to protect farming in Britain. While the other European countries fully appreciate these arguments, they do not agree that agriculture can be excluded altogether and it will undoubtedly be difficult to find a satisfactory compromise over this issue.

Early planning for wider trade

While therefore the Common Market of the six in the European Economic Community is taking shape, whether we like it or not, negotiations for a Free Trade Area with the six are still proceeding. As yet it is difficult to see what the conclusions will be or when any will be reached. Quite apart from weighing up the political and economic advantages of a wider and freer market, greater competitiveness in third markets against the opening up of the home market to competition from abroad, and the damage that will inevitably be suffered by certain industries, there are a great number of extremely difficult technical details to be settled and these will take time. Nevertheless it would be wise for manufacturers in this country to base their forward planning on the assumption that the Common Market in the six European countries will become a fact within the next 12 to 15 years, with the strong possibility that we and the Scandinavians, Austria and Switzerland will be associated with it in a Free Trade Area, which may also be joined in some form by Turkey, Greece, Portugal, Eire and Iceland.

Obviously it is desirable that the terms of association in a Free Trade Area should be the best possible that can be negotiated, but in spite of our strong bargai hand in the size of the market we can offer to Eu it is inevitable that the result in the end must be e deadlock or compromise. Deadlock would leave face the Common Market without a Free Trade This might offer us certain short term advantag third markets while the six countries were occupied with the reshaping of internal trade investment, but in the end we would be facing, wit independence in food, raw materials or fuel an nomic giant on our doorstep, almost comparab overseas markets to the USA. Compromise w mean all the advantages of a large market coupled the gradual invasion of our home market throu Free Trade Area, with all the painful adjustment must entail in the shorter term, although long advantages are to be gained.

Dependence on design

To some this prospect is a threat, to others a chall In the field of design it can only be a challenge greater opportunity. Of all the factors to be taken consideration in consumer goods trade with Eu design offers greater scope than many. Desig already and will be an increasingly important fac the competition to be faced in this country European exports. Conversely design can make o our own prospects in Europe for consumer g Good design can to some extent outweigh the factor in high quality European markets, but cos all its constituent elements must be ever present lems for the designer as they must be for the m facturer. Good design cannot in such markets bad quality in materials or workmanship, nor

mpensate for bad deliveries. Good salesmanship is capacitated by bad design and good design is worthless allied to bad salesmanship. Without effective rket and marketing research and commercial intelligence in the European area the designer is working a vacuum. In fact no designer can be effective unless is both aware of all these commercial and production oblems, and involved in their examination and lution.

If a Free Trade Area were not to be formed at all, it uld still be desirable for us to obtain a larger share of European markets than we hold at the moment. As industrial country we are naturally dependent for a ge share of our trade on raw material producing untries, whose capacity to import our manufactures ctuates with the availability and price of their oduce. While this situation is inevitable, nevertheless need to intensify our trade with the more sophisticated industrial countries of North America and rope, since European currencies as well – through European Payments Union – mean gold and llars for our reserves.

rope links up for leadership

dustrial countries are one another's best markets, not ly because of their purchasing power but because, ile manufacturing the same range of products, their fferences in design and quality afford a ready market ong discriminating consumers. As yet there is no ch thing as a 'European Market', and each country ffers in its tastes and requirements. But the intensity trade between the European countries is far higher an ours with them, and this has resulted in a cross-tilisation of ideas and styles between them which has t influenced us to anything like the same extent. It s also begun to foreshadow some of the effects of ser future European economic integration in the impct of individual European styles in third markets. ustralia is no longer a market for nostalgic rosebud tterned china and cottons since Italian and Scandivian designs made themselves felt; Canada is in the oes of Swedish interior decoration, and in the USA, lian and French designs from cars to textiles, Gern engineering products, Volkswagens and bicycles, ve made British designers think on less traditional es. The keenness of their competition has stimued us to beat all previous records in the dollar marts. Designing for European markets will increase our mpetitiveness in North America, in the Commonalth and elsewhere, not least at home.

It would, however, be dishonest if one were to prend that good design is in any way the prerogative of r Continental friends or that good taste penetrates y more deeply into European homes than it does re. Quite apart from the fact that few if any on the ntinent have ever been able to construct comfortable rniture, however inspiring their styles – and that rcely even in this country can one encounter such ingenuous bad taste as in average middle class mes in Scandinavia, Germany and the Low untries, France and Italy – it is a sad fact that some of the worst examples of British goods find a ready market across the North Sea and the Channel, because for so many Continentals the pseudo-Jacobean, Byzantine and Gothic horrors of Tottenham Court Road and the lodging houses in Bayswater are for ever England. Let us hope however, that the Haymarket will gradually prove to be a corrective.

Everything you can do . . . . .

While The Design Centre is already playing an important part in the export of good taste from this country, I have felt for some time that consumer goods industries in Britain would benefit if they could emulate, for instance, what the Colour, Design and Style Centre in Manchester does for the cotton industry, by displaying examples of good industrial design in special sectors of production in Europe and elsewhere. Perhaps even the constitution of the Council of Industrial Design might be modified to allow displays to take place in The Design Centre itself. Some of these displays might then remain on record in a separate section of 'Design Review', in black and white photographs or colour transparencies. While I can foresee objections from supporters of the Centre that such a move might stimulate the importer rather than the exporter – such displays could never be exhaustive nor in any way replace the need for the designer and manufacturer to steep themselves in the climate of their export markets on the spot – it would I feel serve as a useful addition to the excellent material regularly published by DESIGN in this field.

Whatever may be the arguments for or against a Free Trade Area, the Common Market of the six in Europe is becoming a reality and we shall have to live with it, trade with it and compete with it in the world markets whether we like it or not. While pre-occupying ourselves with the many political and economic problems which this raises, we should not ignore the human element which is paramount in any new venture of this nature. Trade is not merely a matter of buying and selling goods, it is largely a matter of contact between human beings and the impact of goods upon them. Here design and all that it implies in style, handwriting, breeding, shape and colour, quality and function, plays a predominant part. It is by designing for these markets now – after carefully studying their tastes and requirements – that we can steal a march on events and help to shape what is to come.

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STYLE *and* TECHNIQUE

for telephones

JOHN GRAY

TWO DESK TELEPHONES of unusual design have recently entered the world market. The release of the 'Centenary Neophone' by Siemens Edison Swan Ltd, recalls the foundation of the Siemens Brothers Company in 1858 by Sir William Siemens, and the introduction of the earlier 'Neophone' in 1929 (the handset of this model is still used universally in this country as part of the GPO standard instrument). The 'Ericofon', by the Swedish company L. M. Ericsson, is a year older, and is produced by the firm which designed the base of the GPO instrument and also, some 70 years ago, invented the handset.

The two instruments are well worth comparing. While the British model makes a fresh approach to the established practice of resting a handset in cradles on case shaped somewhat like a cheesedish, the Swedi contribution breaks entirely new ground; nearly the mechanisms that normally go in the 'cheesedi have been contained in a specially shaped hands which stands steadily on the desk.

Both models are made of thermoplastics, which almost unbreakable by comparison with the therm setting plastics of which telephones have until recen been made. Technically Siemens Edison Swan Ltd h made history by assembling the mechanisms for t first time on a printed circuit, while L. M. Erics has redesigned its range of components for minimu weight and size.

1

'Centenary Neophone'

2

The new model of Siemens Edison Swan Ltd, designe collaboration with John Barnes of Allen-Bowden Ltd unusual yet strictly functional in shape. Unlike the stand GPO telephone, the sides are only recessed towards the b 1 and 4, so that the front is broad enough to take a rin letters round the dial. The letters are set in a wide chan shaped like a horseshoe, which gives an interesting sc tured effect when, as in many countries, letters are not u 2. The points of the horseshoe form the sides of a d

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cradle, which is shaped to prevent the handset from slipping off, and is hollowed on either side to give the hand easy access to the handset, 3. The dial is set at the traditional angle of 45 degrees because the firm believes that this is the most satisfactory arrangement when, as in several countries, the letters are placed not round but within the dial. When there is a 'shared service' button, this lies flush with the case, between dial and cradle, in such a way that the user cannot operate it accidentally when lifting the handset. The base is fitted with tight-gripping rubber feet, which anchor the instrument firmly to the desk during dialling, despite the fact that its weight (3 lb 6 oz, including a handset of 7 oz), is less than threequarters that of the GPO standard instrument. All the moulded hollows that give this instrument its distinctive appearance perform a useful function. Similarly, the handset is designed to ensure a comfortable thumb grip, no matter which way it is picked up. The handset is moulded in two parts, one of which overlaps the

'Centenary Neophone'
continued

other on the joint; this gives the back a low spine, which hides the joint and the excess adhesive and saves buffing. The distance and angle between transmitter and receiver were decided on acoustic grounds, and the mouthpiece has been designed so that it is hygienic and easy to clean. The moulding is free from metal inserts.

The way in which the final design of the instrument was reached is interesting. Siemens Edison Swan Ltd sent Mr Barnes the skeleton of the instrument, an easily manufactured unit with a printed circuit, 6 and 7, together w rough model of the case. Mr Barnes narrowed the cas that a slight regrouping of parts was necessary, and re the basic features of the mock-up to produce, with handset, an integrated design; the firm accepted suggestions with slight modifications.

The design is injection moulded, and is produced in a va of colours – including black, ivory, black with ivory, with red, grey with maroon, red, green, oatmeal or dark

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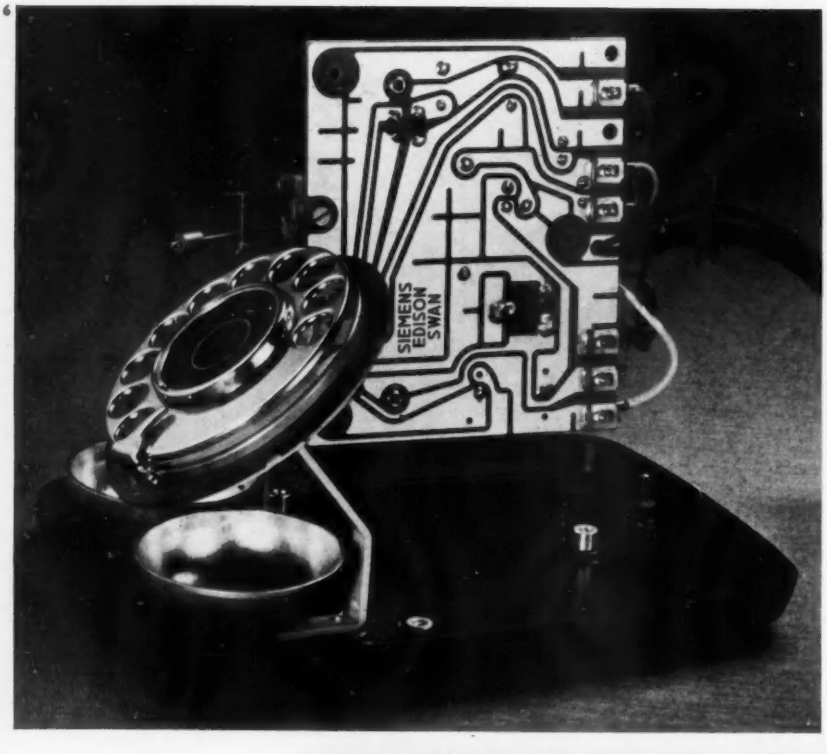

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8 Working models in high impact polystyrene, made from a w mock-up by a vacuum-forming process, were used in the de ment and testing of the design. A series of moulds was pro from the mock-up and coloured plastics sheets were laid acro cavity, one at a time, softened by radiant heat and pressed a the moulds by withdrawal of air from the cavity. When co sheets were cut to the correct shapes, which were then joi form cases and handsets. This method enabled any numb models to be constructed with working mechanisms befo factory was tooled up for production.

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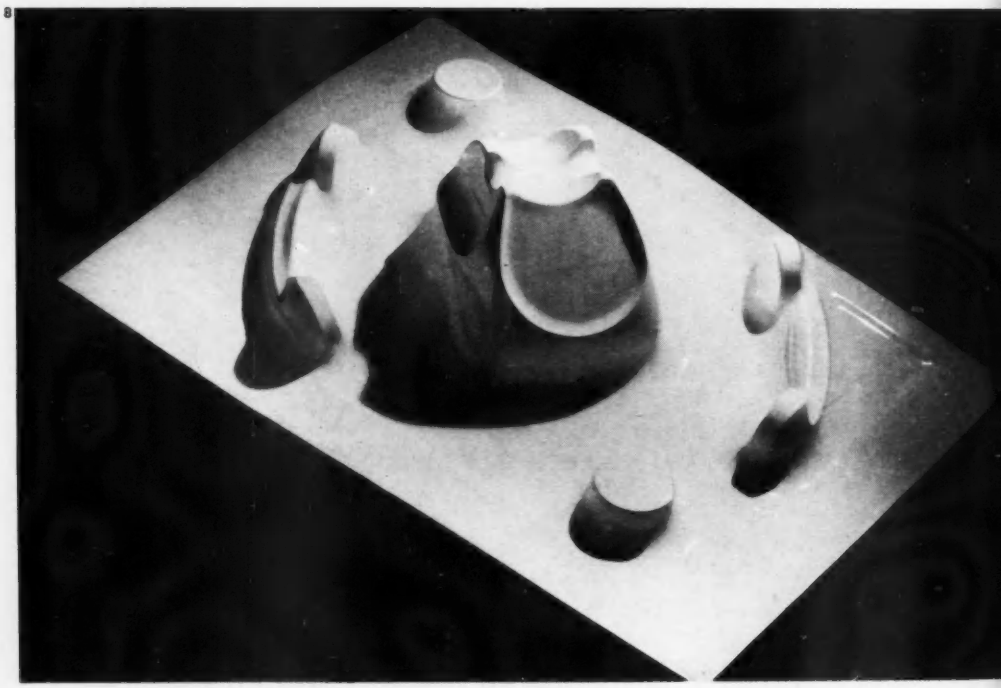
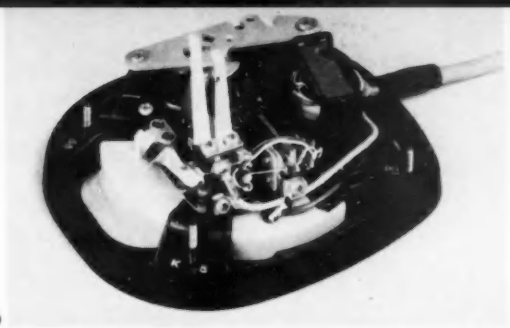


Ericofon'



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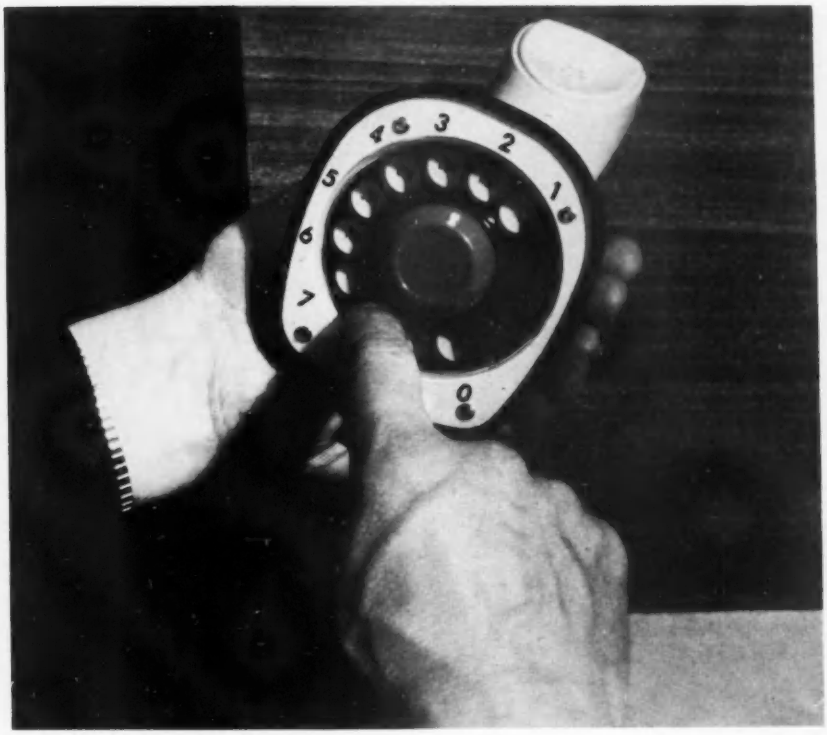

This revolutionary design was first produced by L. M. Ericsson in 1956. It is perhaps fitting that the originators of the telephone handset should be the first to transfer most of the mechanisms to this component, eliminating the conventional 'cheesedish' shaped base. The novelty of this idea has been widely recognised, but it will doubtless be tested in use for several years before the world passes judgment on its merits relative to more traditional designs.

The basic features look so astonishingly simple that it is hard to believe that they are the result of 12 years of research and development. All mechanisms apart from the bellset (or buzzer), and capacitor, which are housed separately, are in the 'standset', **10**, and all of these except the receiver are concentrated in the wide lower part, which is shaped so that the transmitter, attached to the perforated side of the case, lies in correct acoustic relationship with the receiver at the top of the case, **12**. The rounded base rests on a pedestal of 'Neoprene' rubber, which holds the instrument steady when not in use. It contains the dial, **11** and (in the centre) the springset, a plastics button which actuates the mechanism when the telephone is picked up and clears the line when the instrument is put down again.

Two conditions were essential to the design – lightness and convenience in use. To reduce weight each component was carefully examined to see if redesign could reduce its size, or

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if it could be made of lighter material, without loss of technical efficiency; the case itself was made much lighter as a result of injection moulding in thermoplastics. The entire instrument, excluding cord and bellset, weighs only 14 oz – a remarkable achievement.

For ease of handling, the present design, reached after tireless experiment with many shapes, **13**, incorporates a deep thumb grip just above the point where the case widens. The user places his thumb here and his fingers across the slightly curved back of the case, immediately above the flex hole, **14**. By a slight movement of the wrist and the forearm he can raise the base for dialling without changing his grip. This idea came from observation of users' habits; many people prefer to hold the normal handset not in the middle but near the mouthpiece, and it seemed reasonable to the designers that other users could be expected to do the same in comfort if encouraged by a suitably shaped case. The hope seems to be justified; beyond doubt the instrument is simple and convenient to use. The shell-shaped earpiece fits the ear comfortably and gives good acoustic transmission.

The design has other advantages. Its dial, being in the base, lends its weight to the stability of the instrument, and is protected from dust when not in use. The telephone takes up little space on a desk or table and its attractive shape and colours give it decorative value, **15**. There is no problem of colour matching in replacement, since only one plastics casing has to be replaced.

ELECTRONIC INSTRUMENTS

the appearance factor allied to technical design

"What does appearance matter? If it works it will sell." Thus runs the reasoning in countless firms, not only those in the electronic instruments industry whose products are discussed in the following article.

L. BRUCE ARCHER

THERE IS STILL a great deal of nonsense talked about the value of styling in technical products. There are people who roundly deny that questions of taste have any validity in these fields, and there are others who assert that purity of construction is the basis of aesthetic standards. Both these schools of thought derive support from the assumption that a functional problem has only one perfect solution, and both find their strongest adherents in industries where the technical aspects of design are advanced and highly specialised. The critic of industrial design is therefore treading on slippery ground when he ventures outside the field of consumer products. And yet the issues to be faced have universal significance.

More than one solution

It is just not true that every functional problem has only one perfect solution. Elementary algebra shows us that a problem in only two unknowns may have alternative solutions, each equally correct. A design problem is one which involves a score or a thousand variables, and even if our mathematical knowledge were sufficiently advanced to solve such a problem, the calculation would offer a large number of solutions all equally correct. In fact, most of the answers actually achieved in the solution of technical design problems are human, imperfect, and approximate. It is therefore not sufficient for a manufacturer to claim that the form of his product is fixed and inviolable for technical reasons. If he cared to look for them he would almost certainly find alternative forms, some of which might be aesthetically more acceptable than others. The question remains, are high standards of design for appearance relevant to, say, a machine or a scientific instrument? This article examines the question as it applies to industrial indicating instruments.

The electronic instruments industry produces devices which measure and indicate quantities of electricity, heat, light, sound, force, space, time, etc, and also the rates of change of these quantities. It is a young industry. Its principal customers are other young industries – telecommunications, chemicals, aircraft, and atomic energy. All these depend for their very existence upon the use of instruments. Those devices which measure and directly indicate simple quantities – for example, ammeters, voltmeters, chronometers, speedometers – are strictly known as meters, and form a separate section within the instruments industry as a whole. A much larger, and indeed a dominant section is that which uses electronic instruments as a means for indicating complex quantities of every sort on simple electrical meters. In 30 years these have grown from constructions made in the laboratory by physicists, to a major industry supplying an ever-diversifying market. Today semi-skilled workers in paper mills, oil refineries, and manufacturing plants are using as everyday tools instruments which were considered highly scientific only a few years ago.

The actual purchasers of instruments are generally the laboratory staffs employed within the user industries. This fact is often quoted as a good reason why the appearance of such products is of no importance. While it is true that the purchaser will first examine the technical specification on the back of the leaflet and that he would obviously refrain from buying an instrument which failed to fulfil his requirements, the appearance of the product influences the decision when there is a choice between two or more technically similar instruments. Firstly, an impression of simplicity and efficiency is important when an instrument is to be put into the hands of workshop operatives. More significant, however, is the effect of prejudice on the part of the purchaser himself. An assessment of the reliability and sensitivity of an instrument is a dominating factor in the exercise of a choice. Most buyers

continued on page 32

Electronic instruments

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Gordon McLeish

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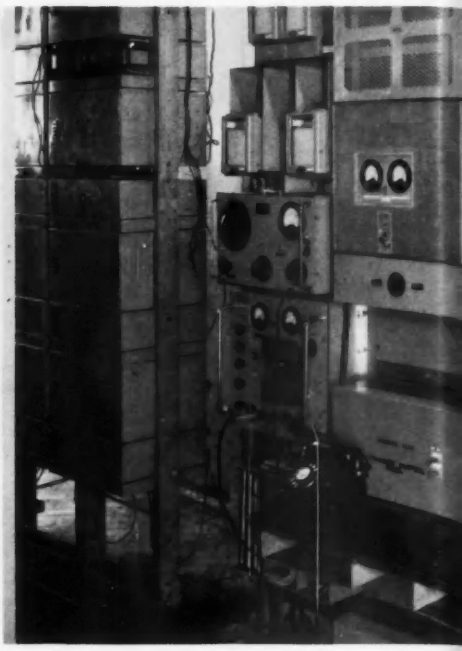

1 Early instruments were made by physicists in the laboratory and took forms which were suitable for manufacture by hand methods. These forms became conventional and survived when manufacture was moved from the laboratory to the factory. The illustration shows the original Moullin valve voltmeter, made in the engineering laboratories at Cambridge in 1922. Photograph by courtesy of the director, Science Museum, London.

2 The first large-scale use of electronics was in telephone and telephone apparatus. The need for quick replacement of ponents led to the first use of modular construction, in standardised panel-mounted assemblies were attached to rack frames. This type of assembly and adaptations of it u the Services' radio-telephony, were widely adopted for elec equipment. Racking handles became something of a cliché, on instruments which were not intended for rack mounting. telephone exchange equipment provides a good instance o original and correct use. Photograph by courtesy of HM master General.

3 Modern instruments are used in large numbers by the telecommunications, chemicals, aircraft, and atomic energy industries, all of which rely completely on instruments to observe processes which cannot be evaluated by the human eye. Many of these are incorporated in permanent installations, while portable instruments are used in tracing faults and re-calibrating the fixed instruments. The illustration shows instruments in use in the Shell Development Company's research laboratories in Illinois.

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4 Semi-skilled workers in many industries are now beco familiar with instruments which would have been regard highly scientific only a few years ago. Simple layout of co and dials, as well as robustness of construction, are beco increasingly important. This farm worker is testing the mo content of harvested grain with an instrument by Ma Instruments Ltd.

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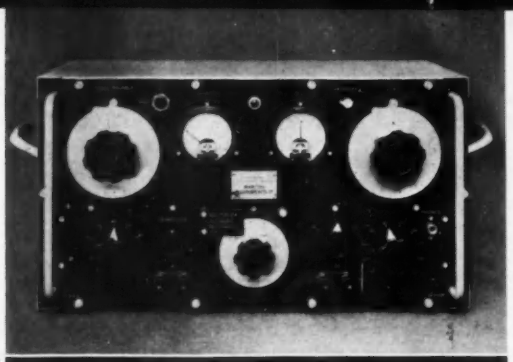

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Marconi instruments

Marconi Instruments Ltd was one of the first companies to make electronic instruments for sale, and still remains a leading firm in the design of these instruments. This is one of the few firms making use of the results of genuine scientific research – such as that carried out by the Applied Psychology Research Unit, Cambridge – in the design and disposition of dials and controls. A typical design team in the firm consists of an electronics designer and a mechanical engineer assisted by draughtsmen. A perspective visualisation, often in colour, is put forward at an early stage so that the development of the circuit and the mechanism can be directed towards a layout which is convenient in use.

5 This early universal bridge demonstrates the principles upon which the construction of most electronic instruments is based. The chassis and components are screwed to the back of a panel, and are protected by a simple box cover. If necessary the panel can be screwed to standard rack frames, in which case the cover is omitted. The front U-shaped handles serve both as handles when removing the instrument from rack or table, and as feet when the panel is turned on its face for servicing.

6 The current model of the firm's universal bridge is notable for the large balance dial. The units of measurement show through small windows on the dial and change according to the range selected, so that direct reading is obtained for all ranges. Considerable design ingenuity was shown in the achievement of this feature. The design of the case is a bold departure from the traditional box form, but the rather indefinite contours of the projecting rim which acts as a guard for the controls, detract from the dignity of the instrument.

7 This signal generator provides an outstanding example of the logical positioning of controls adjacent to the dials they refer to. The rectangular full scale-length meters are a Marconi development which has profoundly influenced design trends in the meter trade. A frame attached to the front panel protects the controls when the panel is turned face down for servicing. This type of guard facilitates packaging the instruments – an important consideration when they are despatched over long distances for export. The two awkwardly shaped rotary switches are the weakest points in this otherwise sophisticated design.

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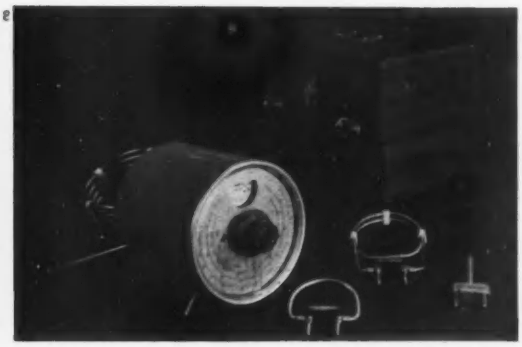

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8 A few instruments are now designed in forms that are wholly expressive of their functions. In this VHF wavemeter the dial has been expanded to fill the whole of the end face of the instrument, which is contained in a cylindrical instead of the usual rectilinear case. The control is superimposed on the dial. The carrying handle can be fitted to any one of three positions or removed altogether. The hardwood carrying case, sturdy though it is, seems a quaint reversion to the traditional form and materials of the very earliest instruments.

9 The latest trend is to place the control panel on the smaller face of the instrument. This means that it occupies less space when in use, and a more compact arrangement can be made when a number is used in combination. This oscillator has a crisp-edged frame; the case construction and control linkages are simple, but involve a more advanced standard of mechanical engineering design and production control than is usually found in products dominated by electro-technology.

rely a great deal on their opinions of the integrity of the maker. Thus the manufacturer's reputation and the purchaser's prejudice play major roles in the act of selection. A familiar house style, a clean, easily understood layout of dials and controls and an air of being thoroughly up-to-date are all real selling points. Since the users are mainly young industries staffed by young men and housed in modern factories, there is a definite tendency in favour of equipment whose appearance is in tune with the modern idiom.

Design methods compared

The extent to which the industry takes heed of these factors is very mixed indeed. The most progressive firms take a conscientious pride in the development of a good and recognisable style in the appearance of their products. Others, whose instruments may be every bit as good in the technical sense, exhibit such a diversi of styles and apparent qualities that it is difficult believe their products have emanated from the sa design offices. Much seems to depend upon the way which design work is organised. Where the circ design is created by the electrical side and then hand over to the mechanical side for envelopment in a casi there is little scope for imaginative layout. A change the positioning of components or even an alteration the shape of the casing can disastrously affect the m netic fields existing within and around the circuit. instrumentation firms, the mechanical side is usua the less senior and sometimes fails to carry enou weight to obtain basic changes in circuit when c siderations of layout demand them.

Better results are usually obtained when the visu constructional and electrical aspects of a design probl

10 The instrument manufacturer usually relies on specialist firms for the supply of components, cabinets, chassis, and panels. These standard cabinets by Alfred Imhof Ltd are of excellent modern design, and have made a material contribution to design standards in the industry. The range includes 50 types of case, 29 type racks, and over 40 different handles. Alternatively, the instrum maker can assemble his own cases and chassis from the 'Im construction system, a range of interlocking components.

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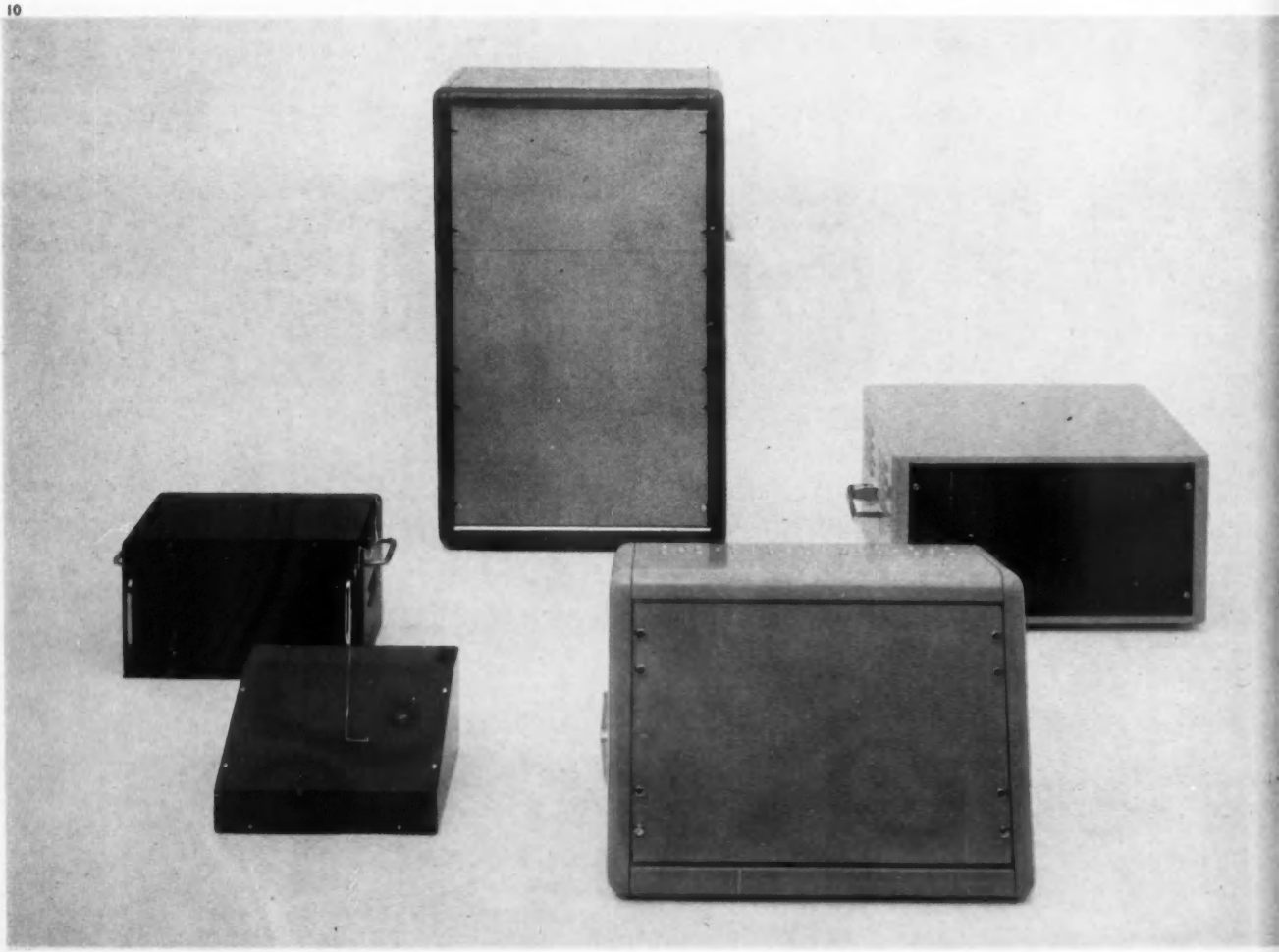
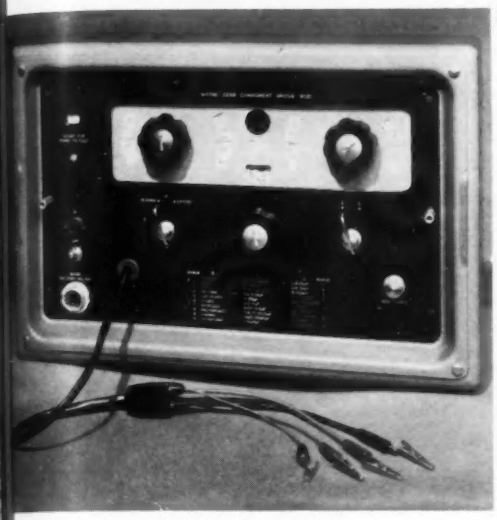


11 This measuring bridge, made by The Wayne-Kerr Laboratories Ltd demonstrates that good design and ease of use are not exclusive to the large manufacturers, and proves that there is no substance in the excuse that in matters of design the instrument manufacturer is in the hands of the few knob and dial makers who supply the whole industry.



12 The use of unit bread boards built up from standardised components permits the circuit designer to prepare original circuits and alternative layouts much more easily. Mullard Ltd has pioneered the art of unit construction. The firm's chassis components have proved so successful in use in its own laboratories that they have been put on the market for sale to the industry generally. The pyramid shape of the basic unit is designed to provide the maximum area for wiring and for the attachment of small components.

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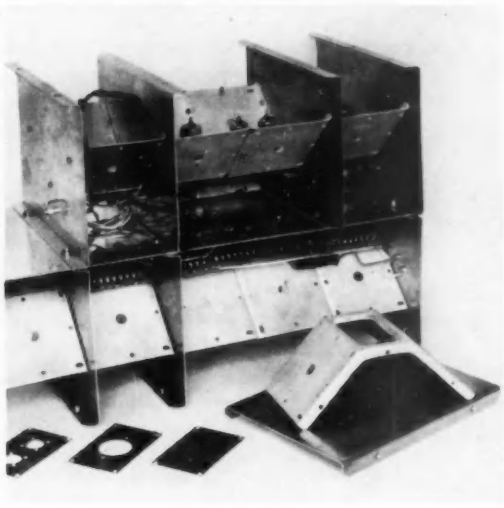

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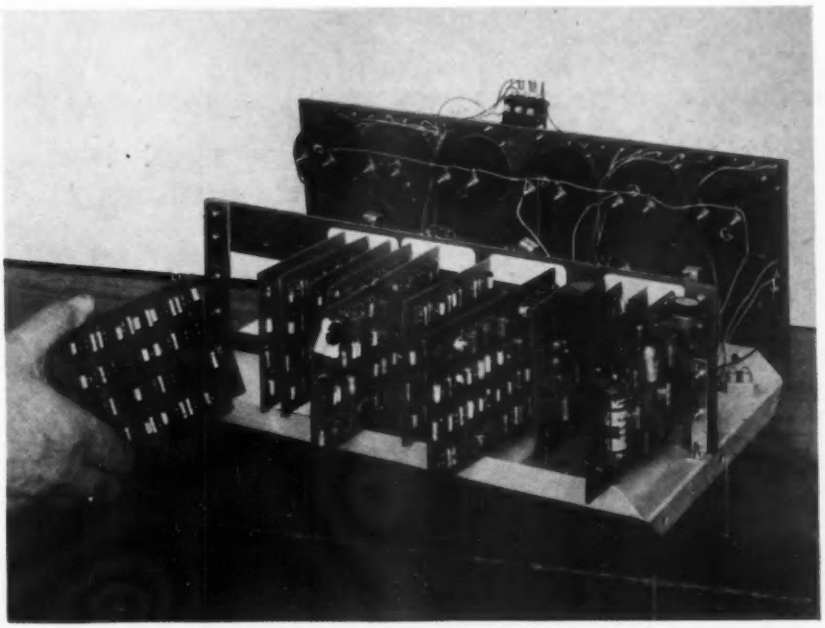

re simultaneously considered from the beginning. At east one leading company puts a visualisation of a proosed new instrument before the design team of elecrical and mechanical engineers at the commencement f the project. Thus, instead of starting with obvious ircuits which may perhaps be destined to involve undesirable mechanical features, original and sometimes difficult electrical systems are employed in the achievement of all-round quality. A considerable number of firms employ consultant industrial designers. The more fortunate of these consultants are retained for the purpose of influencing design teams throughout their deliberations, but others find themselves in the unhappy position of having to beautify layouts which they are prohibited from modifying.

If beauty is in the eye of the beholder, then style is in he sensibility of the designer. Criticisms of the esthetic qualities of a technical product, whatever its unctional merits might be, are wholly justified if they eal with its effect on the user's environment. Each is is neighbour's neighbour, and is depressed or elevated y his neighbour's standards. In the instrument ndustry visually unsatisfactory designs often betray oor mechanical engineering, and well styled products sually indicate good mechanical engineering. This is ot because of some romantic link between science and esthetics, but because a design team which overlooks he useful effect on sales of good style is inefficient, and team which is so unsophisticated that it cannot ecognise bad styling is only half-educated.

13 New techniques, including printed wiring and one-piece circuit bricks, will probably permit the building of circuits in complex shapes, and will thus give the mechanical designer greater scope and more responsibility in the matter of layout. The illustration shows printed wiring boards, developed in the Mullard research laboratories for use in the firm's work, complete with transistors and other circuit elements, being plugged into an instrument chassis. These wiring boards are made from pieces of insulating material coated with copper, most of which is etched off to leave the required interconnection between the circuit components. These are attached through holes which are pierced in standard positions. The future may hold the possibility of printing the wiring on to sheets of material which may then be formed or bent into compound shapes, thus producing one-piece chassis in any convenient form.

Each year the building industry increases its dependence on components designed for fa production. New systems for prefabricated construction are developing rapidly in the attempt to establish building techniques which will reduce costs, simplify erection, requi less skilled site labour, improve quality and offer new materials with fresh textures, sha and colours. The following report with extracts from a lecture recently delivered by E. D. Hinchliffe, one of the leading fabricators in the industry, outlines the opportuniti to be realised by the alert designer of building components.

Industrially designed buildings

The term 'prefabrication' entered the popular vocabulary during the emergency housing pe immediately after the war, when large numbers of temporary 'prefab' structures were built. I this reason it has unfortunate, and often misleading connotations. In the context of this artic 'prefabrication' can be best understood as the co-ordination of unit constructed parts of dissi materials which have been fabricated away from the site.

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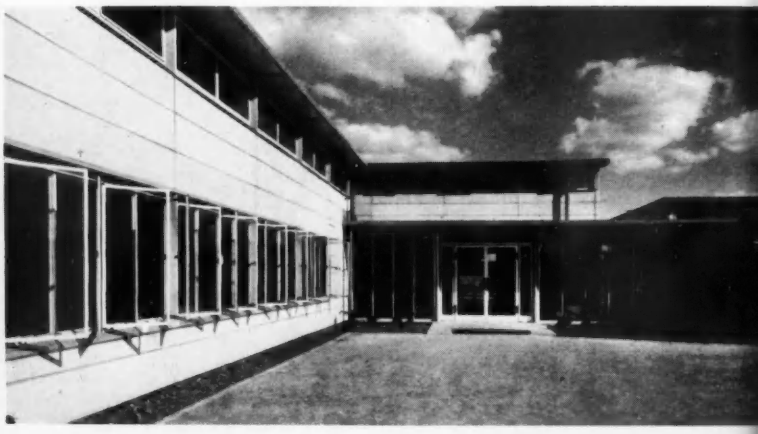

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1 Prefabricated single family dwelling. This light steel skeleton structure house, clad with asbestos-cement 'Eternit' sheets, was shown at the Stuttgart Weissenhof Housing 'Werkbund' exhibition in 1927, and is one of the earliest examples of an industrially designed unit constructed dwelling. Architect, Walter Gropius.

2 Cheshunt school, Hertfordshire, 1946–7 was the first of the Hertfordshire schools to be erected using the 'Presweld' frame system with 'Hilcon' cladding developed and manufactured by Hills (West Bromwich) Ltd, and as such served as a prototype for Hills' subsequent systems. Architects, C. H. Aslin and S. A. W. Johnson-Marshall for the Hertfordshire Education Committee.

3 Hackenthorpe primary school, Derbyshire, constructed on the timber framed 'Derwent' system, with timber cladding. This system was developed by Vic Hallam Ltd. Architects, F. H. Crossley, Derbyshire county architect, and S. Morrison for the Derbyshire Education Committee.

BRITAIN HAS DEVELOPED high quality prefabrication in building more extensively than any country in the world. Most of it has taken place since the war, and it makes a rather remarkable story of industrial design on a huge scale. The background derives from that side of modern architecture which found its inspiration in the engineering industries rather than in traditional building practice. Not much headway was made before the war, however, for this side of industry did not offer many products for building, and architects had few opportunities to create a market for them.

At the end of the war the situation changed radically. The priority on housing absorbed most of the conventional building capacity; the rest was far below total needs both in labour and materials; in addition the engineering industries found themselves with a surplus capacity left over from war time production. Schools were almost as urgently needed as houses, and among the local authority architects were some whose vigorous imagination saw that here at last was an opportunity to shift some of the emphasis of building on to the engineering side. They had large programmes in their hands and, therefore, purchasing power, and for the first time they were in a position to provide the market necessary for development.

The first centre of activity was Hertfordshire, where the county architect, C. H. Aslin and his deputy S. A. W. Johnson-Marshall supported by the education secretary John Newsam, took the plunge at once. They gathered together a selected group of firms, and aided and abetted by the Government's Building Research Station, which is also in Hertfordshire, they initiated the development of prefabrication on a large scale, with the guarantee of substantial orders covering several years. All sat down together to hammer out the economics, science, technology, production, education needs and the design of a new flexible way of building schools.

The first prototype, which also was the first production model, **2**, was in use in 21 months, and its main components were a light steel frame with high grade pre-cast concrete or metal frames and panelling for the outside, and pre-cast plaster inside (the ancient 'stick and rag' technique modernised). A specially modified form of heating was introduced.

The buildings were emphatically successful, competitive in cost with traditional work at that time, a good deal quicker, exceptionally good technically, and they were amazingly popular with children, teachers and parents. It was in fact the first modern architecture

4 Spencer Park secondary school, Wandsworth, 1955, is a later development of Hills' system, and compared with **2**, this illustration shows a greater flexibility and sophistication in the co-ordination of the units. Steel 'Presweld' frame and 'Hilsulate' cladding on a 3 ft 4-inch module by Hills (West Bromwich) Ltd. Architects, L C C Architect's department; architect in charge J. M. Kidall.

Industrially designed buildings

in this country to pull hard at the heart-strings of the common man; and yet it held the respect of the most distinguished architects in the world. It was an achievement.

Naturally enough the idea grew. Initiative spread to the Ministry of Education, and to other county authorities. The technique of industrial development, largely new to the architectural profession, became more firmly established in a widening circle of offices. New systems of construction were brought into being and today the high quality prefabrication industry seems in a quite healthy state, the largest firms doing up to 250 or more schools and other buildings each year.

Economics of the engineering approach

The first and still the most substantial firm in this field was Hills (West Bromwich) Ltd, and its managing director, E. D. Hinchliffe, has recently been talking about his experience to the Modular Society. This body was formed in 1953 to promote dimensional co-ordination in the building industry, on a modular basis, which means working chiefly in selected sizes which are multiples of a unit, a few inches long, called a module. This tends to be associated with grid planning, where the layout of a building is based on a gri few modules in size. Prefabrication especially co-ordinated sizing and grid planning, and Mr H liffe had some interesting things to say about it.

"One of the main purposes of dry built mo construction is to reduce building costs", sai Hinchliffe. "This reduction comes from the n economies offered by the engineering approach shop manufacture of components, produced th an engineering-minded design and drawing offic an efficient factory organisation. If this appro carried to its conclusion – a 100 per cent dry struction system – such costs could well be belo that traditional building could offer." Howev added, "it is commonly held by a large section building industry that prefabrication must be expensive than site building merely because difference between factory and site overheads.

"I believe this view to be wrong where the facture of components is carried through on a qu production basis comparable with that of a m motor car, and where there exists between the tect, builder and fabricator, close co-operative w relations from the inception of a plan right thro

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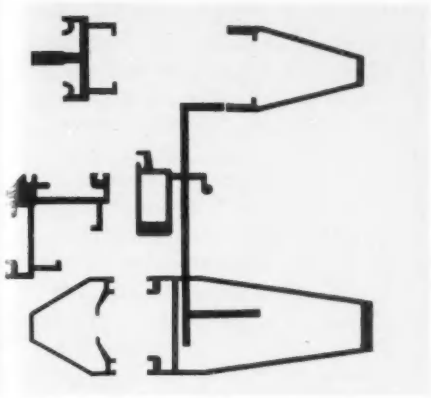
5 Faversham secondary school for girls, Kent. A pre-stressed, pre-cast concrete structure clad with 'Windogrid' manufactured by Henry Hope & Sons Ltd. Architects, W. R. H. Gardner & Dale in collaboration with Kent county architect, E. T. Ashley-Smith, for the Kent Education Committee.

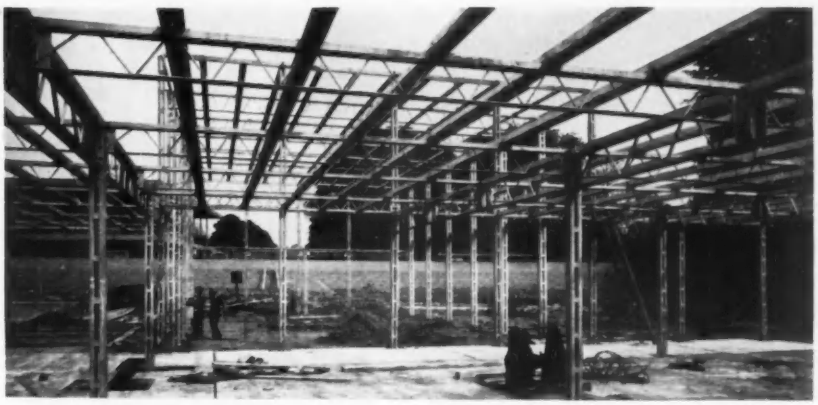
6 'Stramit' infill panels, weathered with 'Decromastic' bitumen spray, in use on the Fonthill intermediate school, Lisburn, N Ireland. Architect, J. V. T. Scott.

7 Offices for Bowater Paper Corporation Ltd, Northfleet, Kent. The illustration shows the visual possibilities of opaque and transparent areas of curtain walling. The curtain walling and frame were designed by the architects in collaboration with Morris Singer Co Ltd. The mullions and sills are faced with 'Silver Fox' stainless steel. Architects, Farmer & Dark.



Profiles of aluminium extrusions of curtain walling components manufactured by Hills (West Bromwich) Ltd.

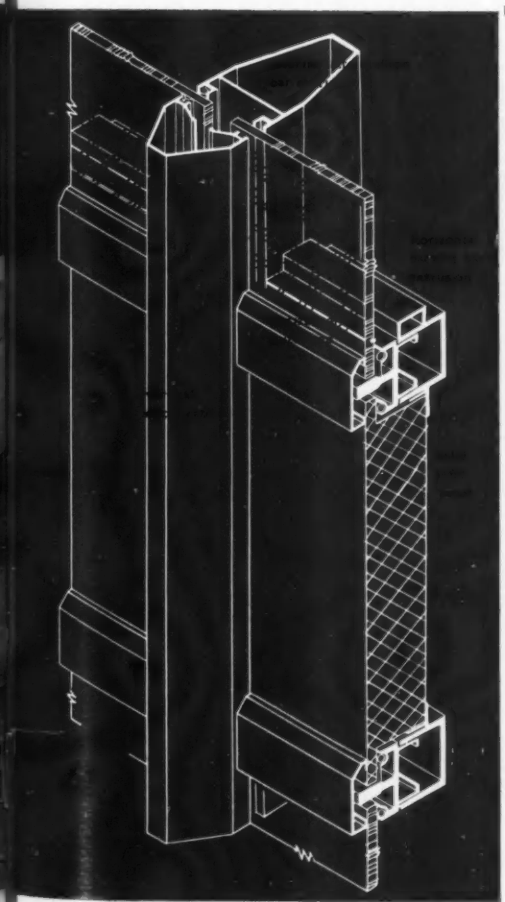
9



9 South end of British Industries Pavilion for the 1958 'Brussels Universal and International Exhibition' showing Hills' 'Presweld 834' steel frame during erection, and before the curtain walling is attached. Architect, Edward D. Mills and Partners for the Federation of British Industries on behalf of British Overseas Fairs Ltd.

10 'Presweld 834'. An isometric drawing showing the mullion and sill construction of the latest curtain walling system by Hills (West Bromwich) Ltd. It is evident from this drawing how industrially designed and manufactured components affect appearances of buildings. A flexible, open system together with sensitively designed components can provide the architect with an economic means of building which has extensive aesthetic possibilities, just as indifferently designed components limit even the most imaginative architect.

11 Garage and service station, Harlow, Essex, constructed on a modified 'Presweld' frame using a 40-inch module developed by the architects in association with Hills (West Bromwich) Ltd. Architects, Maxwell Gregory in association with Ramsey, Murray, White and Ward for Shell-Mex & BP; consultant architect, Denis A. Birchett.



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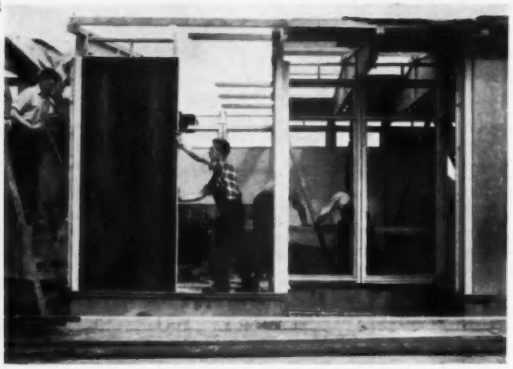


12 Office building for Vere Engineering Co. Exterior wall panel, composed of pressed 'Bartrev' skins on both sides of timber framing, being fitted, with the roof truss in position. Designed by Gaby Schreiber & Associates; architect in charge Ronald Thomson.

the finished building. Until co-operative working between all parties is accepted and the benefits become clear, it is not possible to exploit to the full any system of dry building."

The comparative economy of course will be proved or disproved by events. It is hard to tell at the moment. Schools are limited to a fixed cost per place, cut so sharply that practically everyone is forced to use whatever money can be obtained for a building, regardless of type of construction. Prefabricators have considerable experience now in other classes of building, and there the comparisons could be fairer. Still, the outcome is uncertain. Conventional building has had rather a jolt and has stiffened its competition in this field. Some people, too, think the investment value of brick construction is higher, with reduced maintenance, and have gone back to it after using the other. The one sure thing is that competition is in full swing, and prefabrication is vigorously in the field.

'The Building Exhibition' *is open at Olympia, London, November 13 – 27 weekdays 10 am – 7 pm.*

Grid planning and flexibility

Planning and the use of grids were touched upon by Mr Hinchliffe, but not extensively. This is a field where there is common recognition, because when a firm is combining relatively large components based on a frame, grid planning is a necessity. The grid is either the size of the main components, or some simple multiple of them, and systems which are devised in this way can be relatively freely handled, in an architectural sense. It seems obvious, but it was one of the failures of much post-war prefabricated housing where the parts combined in only one way to make one kind of house.

The success of Hills' and other popular systems depends on a particular kind and quality of architectural approach in their design. Makers of prefabricated building components are not selling buildings of fixed design, but merely parts. How they are used lies entirely with architects, and therefore whether they are sold and used depends upon their having the design qualities which make good architects believe they can make good architecture with them.

And, as he pointed out, prefabricated compon must often find a market with conventional buildin well as with the light frames which he himself u The outstanding example is curtain walling, whic rather like an elaborated window system, used for entire cladding of large walls, and is equally us with traditional and modern structural systems.

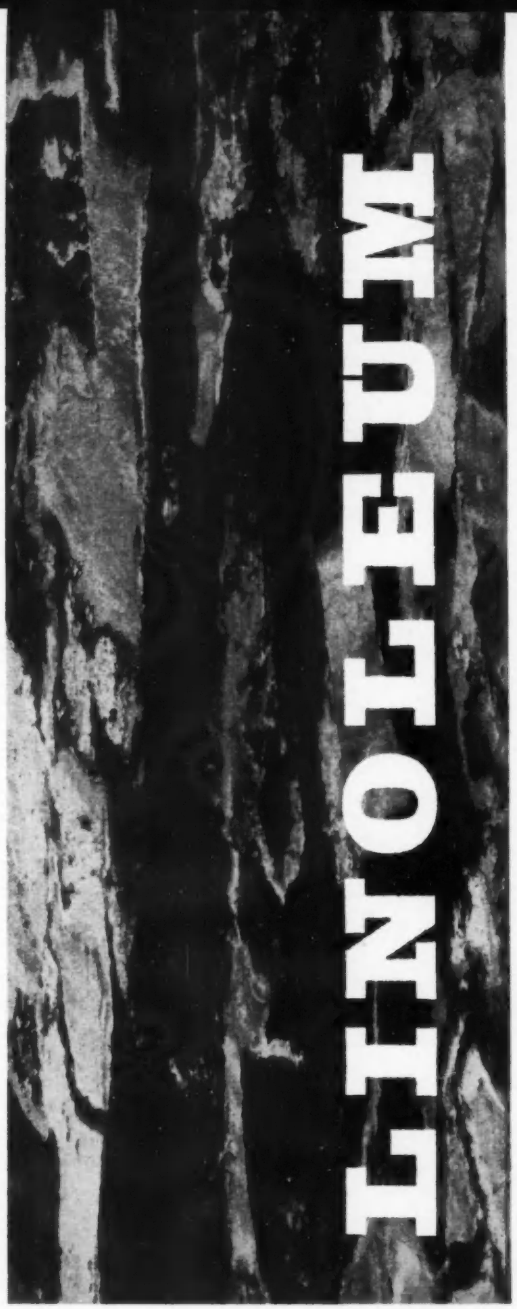
"This" he claimed "is the logical method of clad any framed structure in the lightest possible way w giving it ample stability and endurance against elements. This cladding can take any form, g metal, timber, precast concrete, vitreous enam metal sheeting and composite panelling made u several materials. Provision has to be made for all t varieties of curtain to be hung and securely attache the main structure."

As Mr Hinchliffe pointed out, successful system prefabricated components must include the followi "A clean and permanent look with regularity of line "Ready adaptability to any type of framed struct simple or cantilevered, steel or concrete to allow maximum flexibility in fenestration.
"Reduced overall costs of walling and little o maintenance except for cleaning.
"The maximum use of mechanical dry joints so the curtain wall remains wind and weathertight, spective of thermal movement and climatic conditi "Incorporation of any desired degree of thermal i lation to keep an equitable internal temperature freedom from condensation and reduction in ca and running costs of heating plant. I am convi that really high insulation values can be more re and effectively obtained from dry built curtain wa than from traditional construction.

"In our latest designs we have made full us aluminium extrusions for the curtain grid (see illu tions page 37). This grid offers many advantages, ticularly the maximum freedom for the architec that he can apply it to any building face withou rigid adherence to the grid of the main structure. use of aluminium extrusions so reduces the produ labour cost that the system can be applied freely o grid and not restricted to a fixed one. Glass sizes sent no problem, provided they are within the gene overall dimensions of the glass manufacturers."

Some architects have viewed this rather specta development as a big step towards a time when bui will generally be prefabricated and dry-assembled hind this is the assumption that modern socie moving so steadily towards a factory life that t both mechanically inevitable and architecturally ri

Some trend in this direction is obviously happ in the process of making building a modern indu but these 10 years of prefabrication may prove merely the great trial period of an idea, and no foretaste of future building. But, prefabricatio unquestionably leave its mark on the charact buildings, the range of components used, and ev the way architects work with industry. The im tions for designers of many products so far not di connected with the building industry are evident.



A new effect by Michael Nairn & Co Ltd

opportunities for development

New designs from the British linoleum industry have shown that the possibilities for development in this 100-year old material are by no means exhausted. This article shows, however, that the designer must work within strict technical limitations, though the growth of more sophisticated markets at home and abroad is making new demands on the traditional methods of production and marketing. It is suggested that the industry needs to make more widespread use of experienced consultants.

JOHN E. BLAKE

AS LONG AS MOST OF US CAN REMEMBER, linoleum has been accepted as a material whose use in the home has been largely confined to the kitchen and bathroom. Recently, however, architects, designers and householders have seen its possibilities as a positive rather than a negative element in interior design and have used it to advantage in the dining room, the bedroom, the coffee bar and the exhibition hall.

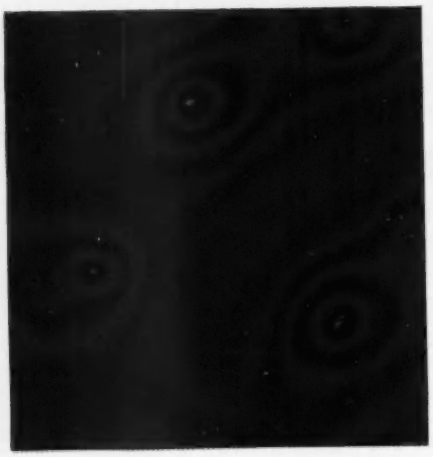
This change in outlook, which appears to have grown from social as well as economic needs, deserves analysis and explanation. What has happened to make it possible? What future developments can we expect?

It is important to make it clear what we mean when we refer to linoleum. Basically there are two types – inlaid and printed. All inlaid and printed linoleums supplied in roll form are hessian backed, and should not be confused with other types of floor covering in which patterns are printed direct on to a bituminised paper felt. Felt-base material is however used in the manufacture of 'home-lay' linoleum tiles.

Printed linoleum has always formed a substantial proportion of the industry's total yardage output. It is a cheaper material and sells as such both at home and abroad. The fact that the pattern will sooner or later wear off, puts it in an inferior range to inlaid types which form the subject of this article. The standard of design in printed linoleum is low. Some of it is to meet

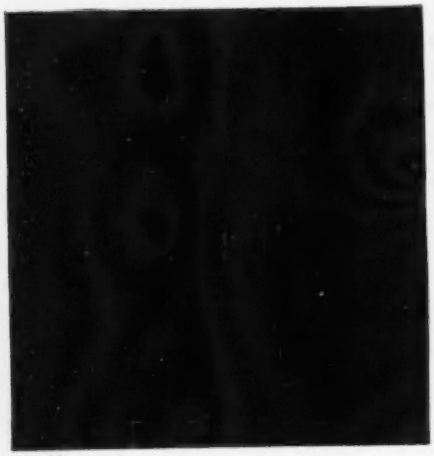
continued on page 42

Plain

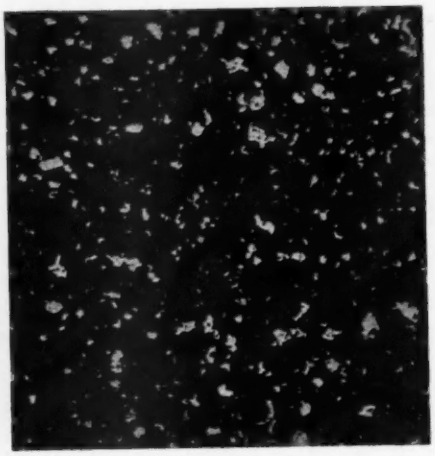


Jaspe

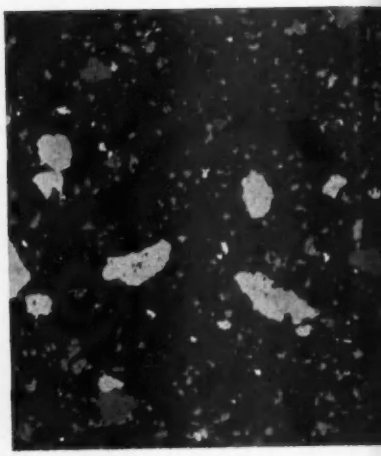
Moire



Marble

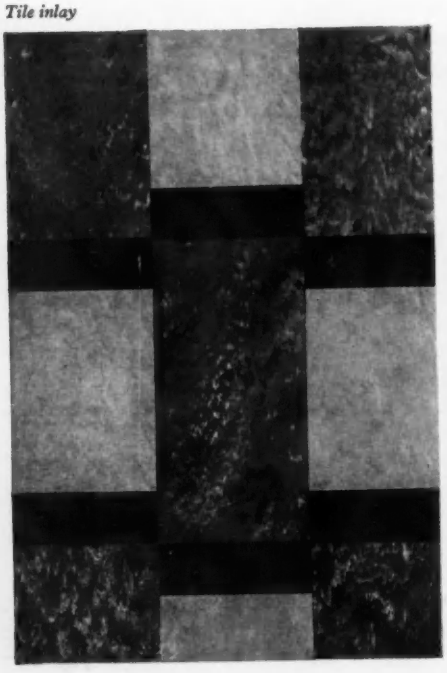


Granite



Dapple granite

Tile inlay



Moulded inlay

Embossed inlay

On the opposite page are shown six effects which are fundamental to the method of manufacturing linoleum, and the three ways of using those effects in controlled pattern-making techniques.

Top row

Plain In plain linoleum the crumbs of ground cork, oxidised linseed oil and pigment are pressed under heat on to a hessian backing. MAKER *Linoleum Manufacturing Co Ltd.*

Jaspe To produce this effect crumbs of different pigments are mixed together and are rolled out between sets of heated rollers that revolve at slightly different speeds. In this way the crumbs are drawn out into long streaks. MAKER *North British Linoleum Co Ltd.*

Moire This effect is a development of the jaspe. Unbacked jaspe sheets are packed together and passed through heated rollers while subjected to a ploughing action which produces the characteristic feathering effect. MAKER *Dundee Linoleum Co Ltd.*

Middle row

Marble A further development of the jaspe effect which again results from a double process. Unbacked jaspe sheets are fed into rollers at right angles to the streaks so that they are spread out into random flat areas with no directional pattern. MAKER *Barry, Ostlere & Shepherd Ltd.*

Granite Here the crumbs of different colours are sprinkled on to a backing and are pressed flat under heat giving an effect which is well expressed by its name. MAKER *James Williamson & Son Ltd.*

Dapple granite A new technique, first developed in the USA, in which large flakes of coloured linoleum are sprinkled on to a bed of smaller crumbs, the whole being pressed together in much the same way as in the granite. MAKER *Linoleum Manufacturing Co Ltd.*

Bottom row: *three examples showing controlled pattern-making techniques.*

Tile inlay As its name implies this type of pattern is produced by assembling small pieces cut from plain, jaspe or marble sheet. These pieces are fitted together, usually by girls, on to the slowly moving hessian base and pressed under heat, as shown in the illustration on page 43. MAKER *James Williamson & Son Ltd.*

Moulded inlay The production of these patterns is an extension of the granite technique. Here crumbs of contrasting colours are sprinkled through a series of stencils and the whole is consolidated on to the hessian back by roller pressure under heat. MAKER *Michael Nairn & Co Ltd.*

Embossed inlay This process is similar to the moulded inlay, except that less than the full area is covered by linoleum crumbs, resulting in an embossed effect. It is often used for imitation tile patterns but has considerable scope for more imaginative design. MAKER *Michael Nairn & Co Ltd.*

Tiles The designer has considerable opportunities for imaginative arrangements of 'home-lay' linoleum tiles which are normally produced on a felt backing. Robert Nicholson has used standard tiles from Nairn's in the hall of his home, shown here, but has cut some of them diagonally to allow a more freely flowing pattern.

Special inlays This floor was designed by John Piper for the 'Observer Film Exhibition' and shows the scope that exists for special inlay designs cut from standard sheet linoleum.

the taste of important markets abroad but also, unfortunately, quantities are sold on the home market where a ready demand would seem assured for cheap floor coverings of good modern design, even if the material had a relatively short life.

Linoleum is manufactured by a technique which has changed little since it was invented in England nearly 100 years ago by Frederick Walton. Briefly, it consists of a mixture of cork, wood flour, oxidised linseed oil and pigment, which is rolled out into continuous sheets and pressed on to its backing. When ground up together, the ingredients resemble moist, coloured bread crumbs. The way in which the crumbs are mixed together and the various ways in which they are rolled out result in a limited number of basic effects. The character of these effects is 'natural' to the material, in the sense that it is derived directly from the machines used in manufacture, much as the texture of woven cloth is derived from the loom. Five of these natural effects – 'plain', 'jaspe', 'moire', 'marble', 'granite' – and one developed more recently, 'dapple granite', are illustrated on page 40, where their individual characteristics are described in detail. They are essentially random effects, although a considerable measure of control can be exercised in the mixing process as well as by the machine operator.

Several techniques of pattern-making – 'tile inlay', 'moulded inlay' and 'embossed inlay' which make use of one or more of the basic effects – are available to the designer, and these are also illustrated and described on page 40. In addition to linoleum tiles which can be laid by the householder in his own individual arrangements, sheet linoleum can be cut for use in special inlay patterns, such as that designed by John Piper for the 'Observer Film Exhibition' (see page 41).

Design conscious markets

What are the qualities of this century-old material which recommend it today, in spite of competition from a variety of new floor coverings? It is, firstly, an extremely sympathetic material. Its pliable nature makes it quiet and resilient under foot, and largely because of this, and providing it is looked after carefully, its wearing qualities are good. Except for printed linoleum the patterns exist throughout the thickness of the material so that even if it has been worn down almost to the hessian backing the pattern should be as clear and strong as when new. Above all, the price per yard is favourable to an increasingly design conscious middle class public whose comparatively low incomes no longer make the possession of a carpet a matter to be taken for granted. These qualities have suggested its use in other ways besides floor coverings and already the material is widely used for surfacing desks and tables. It also has many possibilities as a covering for walls, cupboard doors, shelves, etc.

Manufacturers have grown to realise that new markets exist among a generation of homebuilders whose tastes – fed on magazines and exhibitions of modern design – have changed markedly from that of their parents. Similarly, new schools, showrooms and public buildings of all types need cheap, serviceable floor coverings that will fit in with the fresh modern colour schemes that are being introduced.

New emphasis on colour

The industry has responded to this change with an emphasis on colour that is unprecedented in its history. The browns, harsh greens and muddy reds have not entirely disappeared from manufacturers' ranges and a demand still exists for them. But it is now possible to find colours in the ranges of most firms that fit well with modern interiors. This welcome change to purer colours is partly due to the technical improvements in the pigments used, but several firms have employed colour consultants to develop their new ranges. An instance of this is the 'Colourama' range by the Linoleum Manufacturing Co Ltd, which is claimed to have been based on experimental research into the suitability of colour hue and light reflectivity of smooth textured floor coverings. Developments of controlled patterns in sheet linoleum have been more tentative and have depended for their success on the improvement in colour and figuring of the basic effects.

Readers may question the extent to which these developments deserve commendation. After all, colour has played a dominant role in all forms of interior design, and carpets, wallpapers, furnishing fabrics, chair coverings, etc, have been available in attractive new colourings for a number of years. Why should the appearance of good linoleum colours deserve more than passing mention? Also, trends in interior design have suggested the emergence of more organic, less geometric forms; yet linoleum tile inlay patterns, particularly, are still predominantly geometric in character.

This is undoubtedly true. But the speed with which any industry can respond to current needs depends on many factors and a brief outline of linoleum manufacture in this country will serve to show that it is faced with production problems that are not present to the same extent in the other interior furnishing industries.

Production economics and design

There are seven firms within The Linoleum Manufacturers' Association: two in England – Linoleum Manufacturing Co Ltd, Staines; and James Williamson & Son Ltd, Lancaster; and five in Scotland – Barry, Ostlere & Shepherd Ltd, Kirkcaldy; Dundee Linoleum Co Ltd, Dundee; Michael Nairn & Co Ltd, Kirkcaldy; North British Linoleum Co Ltd, Dundee; and Scottish CWS Ltd, Falkland. Thus, although the industry is small in terms of the number of firms it comprises, the individual units tend to be extremely large with a combined production of over 55 million square yards of linoleum per year. The capital investment needed is considerable and it is estimated that a single piece of linoleum must pass through three-quarters of a mile of large, complicated machinery before it is dispatched. To make this machinery pay, it must be kept working for as long as possible without interruption, and manufacturers have therefore tended

A tile inlaid linoleum pattern is being built up on prepared hessian by a team of girl workers. Each girl has a stack of unbacked linoleum squares and rectangles which she adds to the pattern begun by the leader on the left. The completed 'jig-saw' is fed into the large machine just seen on the right where heat and pressure produce the consolidated final product.

to stick to the colours and patterns for which they are assured of a steady sale.

To change a colour requires extensive cleaning of equipment as all trace of a previous colour must be removed from grinders and mixers – a process which might entail many days' work. Because of this need to keep a colour or pattern in production for as long as possible, the opportunities for market research with trial runs of experimental effects or colours are limited. Much of the recent progress in the carpet, textile and wallpaper industries has resulted from their ability to produce special designs for contract purposes or short runs for a small, sophisticated market whose ideas have in time filtered through to larger sections of the population. With linoleum, the contract designer is confined largely to the use of standard colours either in arrangements of tiles or in special inlay patterns. In both these cases there is, however, considerable scope for imaginative work.

Opportunities for experiment

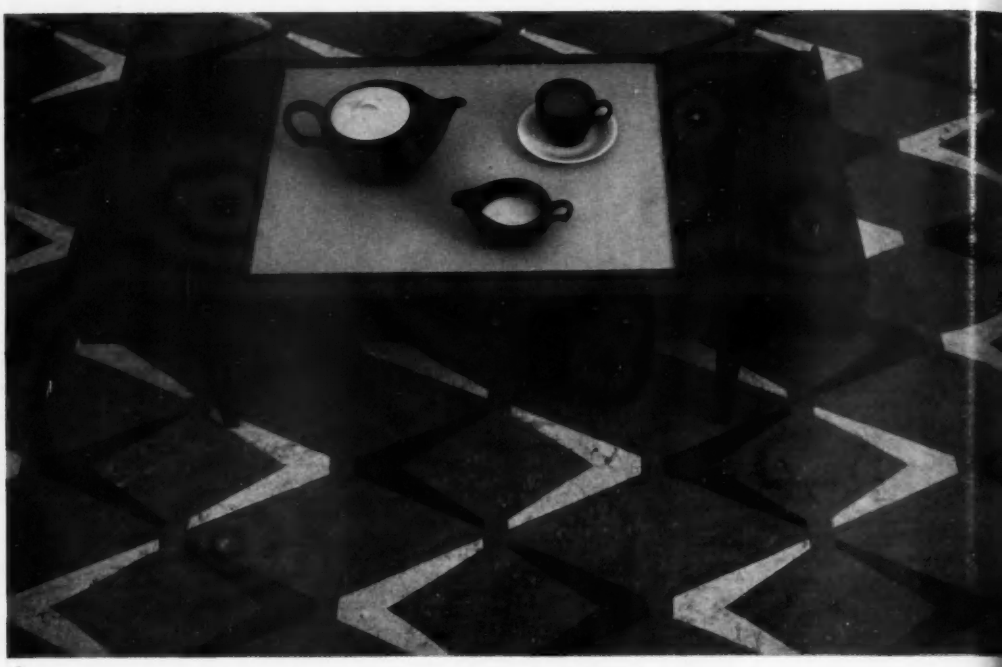
It is clear that in quantity produced sheet linoleum the lack of opportunity for experiment has held back a more rapid advance in design. Yet the industry is well aware of the possibilities that now exist and is anxious for linoleum to be accepted as a quality product that can make its own contribution to modern interior design. The association's advertising campaign during the past two years has been directed to this end.

It remains to be asked to what extent the industry has fulfilled these aspirations, and if enough is being done to ensure that the needs of a more design conscious Europe will be met under the highly competitive conditions of a Free Trade Area. Some of the new patterns that have appeared recently suggest that real efforts are being made, not only to introduce fresh ideas in tile inlays, but also to develop new variations of basic effects.

To take the latter example first, several firms have introduced new effects during the past year which do not fall within the strict definitions of jaspe, moire, marble or granite. Dapple granite has already been referred to as a successful new effect. A development of a jaspe effect has been carried out by Williamson's. Here large lumps of pure colour are introduced into the mix, and in the finished sheet are drawn out into long streaks. Barry's has introduced a new range of

continued on page 46

Linoleum



Tile inlay This pattern by Williamson's, called 'Barbecue', is a development of the more traditional type of tile inlay and is a welcome departure from the rectangles which are characteristic of most tile inlay designs. The V shapes are cut from sheet linoleum and similar V shapes, cut from different coloured sheets, are dropped into place.

Tiles One of the most successful uses of linoleum tiles in a pu building can be seen in The Design Centre; this view shows of the upper ground floor. Designed by Robert Nichol standard tiles have been used to relate to the 2-ft module which the display frames are based. One of the method displaying linoleum samples in the Centre can be seen in background.

Tile inlay A more traditional tile inlay, by the Linoleum Manufacturing Co Ltd, which makes use of particularly good colours.

m tiles in a publi
s view shows pa
obert Nicholas,
2-ft module a
f the methods
n be seen in th

short streak jaspes known as 'Jaspelin'. Nairn's has developed the marble effect to produce an intriguing range of tiles with a random pattern that is quite new to linoleum. Dundee has a range with a small fleck that seems to be a cross between a granite and a jaspe. North British has a new range of moire patterns in good colours with an unusually free figuring.

Most firms have small hand operated machines on which experiments of this type can be carried out. Studio designers, who are mostly kept busy on complicated designs for printed linoleum or on variations of tile inlays, could with advantage be given more opportunity for serious exploratory work of this nature.

Fresh thought in pattern-making techniques

Experiments with tile inlays are less frequent. The individual pieces, which are assembled by hand rather like a jigsaw puzzle on a slowly moving hessian base, are cut from unbacked sheet by metal dies. All firms possess a selection of these dies of various sizes, but mostly square or rectangular in form. Most tile inlays are assembled by designers from shapes cut by these stock dies and, as a result, tile inlays have a similarity of appearance which makes one very little different from another. Manufacturers seem to b reluctant to make new dies (they cost about £150 t make) in shapes other than rectangles, but clearly ma opportunities exist for exciting new patterns usi curving shapes. The use of interlocking shapes such the Italian tile, designed by Marco Zanuso, show here, could give a completely new lease of life to th technique of pattern-making and deserves urge study. A tentative move in the right direction can b seen in the 'Barbecue' pattern (see page 44) produc by Williamson's. The departure from pure rectangl is a relief, though the underlying diamond grid sho that there is still a long way to go before the prese convention can be completely thrown off.

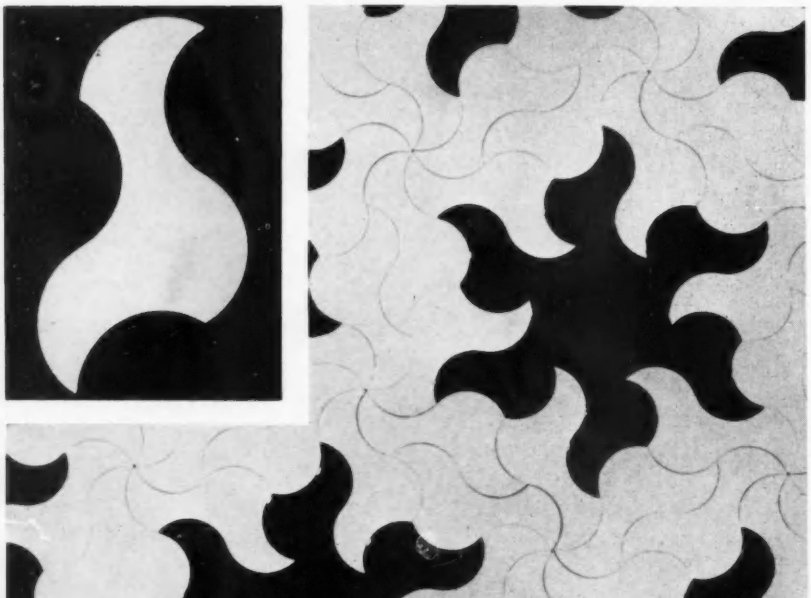
Recent progress has demonstrated without dou that linoleum can no longer be regarded as a secon best in floor coverings. It has shown also that th dreariness which some people associate with linole design is by no means implicit in the nature of th material. Possibilities for developments exist in seve directions, and the industry has now begun to explo them seriously. But the public, having seen the sig of change, will expect something even better, a recently has shown itself ready to accept the best th the industry can offer. The prospects of enlarg markets abroad suggest that the industry should no be investing more in design to ensure steady progre in the future.

Rapid advances in design, however, would inevitab bring risks in marketing, which an industry geared large scale production might well be unable to affor It would therefore seem desirable to extend th present methods of bringing experimental designs small quantities to the notice of the public, so th accurate assessments of potential sales can be ma before full scale production is considered.

Long term benefits of design research

One way of achieving this would be to build pil plants in which both experimental work and short ru for market assessment, could be carried out free the need to consider economic rates of production. T sizes of individual firms within the industry are pro ably large enough to carry the cost of this extra wo and indeed at least one firm is already planning to i vest many thousands of pounds on small scale equi ment that will reproduce in miniature a full producti line. How far this will succeed in fulfilling the obje outlined above, and the extent to which it is capable being reproduced in other firms, remain to be seen.

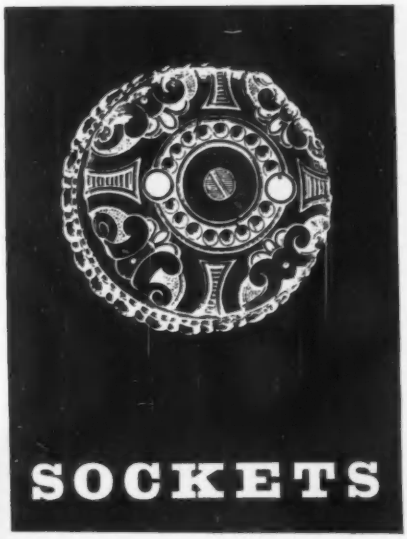
The ultimate value of such a plant will depend the designer, and here a more widespread use of c sultants, experienced in other industries concer with interior design, and working in close conjunct with the manufacturers' design staff, could brin freshness of outlook, and a freedom from the p occupation with technical limitations that still seem be lacking in the studios of most firms. The proof of t pudding is in the eating and the success alrea achieved by the use of professional consultants sur proves the wisdom of choosing a first class cook.



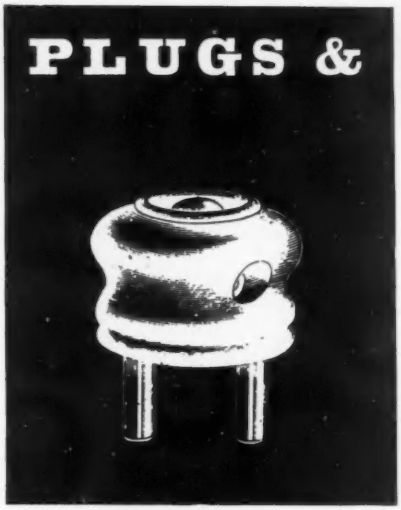
This Italian ceramic tile, designed by Marco Zanuso, shows something of the possibilities that exist for more imaginative tile inlay patterns, using non-rectangular shapes. The tiles can be fitted together in many different arrangements, one of which is shown here.

From the householder's point of view the most significant developments in the design of domestic electrical accessories have been the attempts on the part of the British Standards Institution to reach some basis for standardisation. But how much the industry still needs to learn about the first principles of variety reduction is evident from the welter of shapes and sizes illustrated in the following survey.

SWITCHES



SOCKETS



PLUGS &

a survey of domestic electrical accessories

PETER E. M. SHARP

The author of the following survey is a chartered electrical engineer.

Electricity first came into the home about 1880, and many of the first domestic accessories were introduced at that time, mainly by the great Lord Kelvin. Since then there has been no lack of enterprise in bringing out new ideas, as the box of spare plugs in most households will show, but it was not in fact until 1927, with the introduction of British Standard 73, after some 30 years of near chaos, that any definite basis for standardisation was reached.

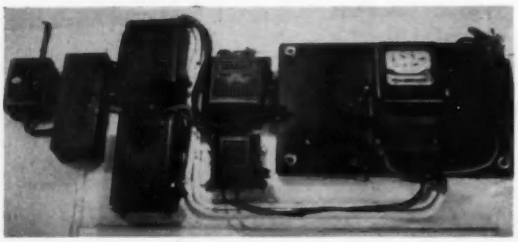
This survey has been divided into four sections: consumers' units (embodying the main switch and fuse units); switches; cooker and water heater units; and plugs and sockets. Because the amateur electrician is mostly concerned with plugs, and because these seem to be the bane of every householder, what may seem a disproportionate amount of space is devoted to design in this group.

Altogether 24 British companies have been approached for information; out of the 50 or

so that are listed in directories as accessories manufacturers some make only bells, fus adaptors, etc, and have therefore not been included. The bulk of the products illustrated are sold almost exclusively in Great Britain; the export market is restricted (for example, a different set of standards exists in some Commonwealth countries, an their requirements are often met by local resources).

Consumers' units

1



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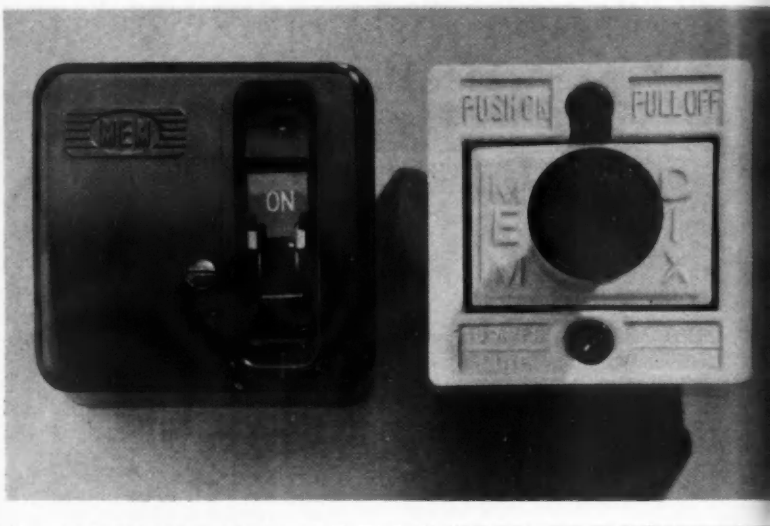

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5

1 A familiar picture of how things were and still are in countless houses throughout the country.

2 The first isolator switches were very simple and remained almost unaltered for 30 years (Veritys' Ltd catalogue, 1898).

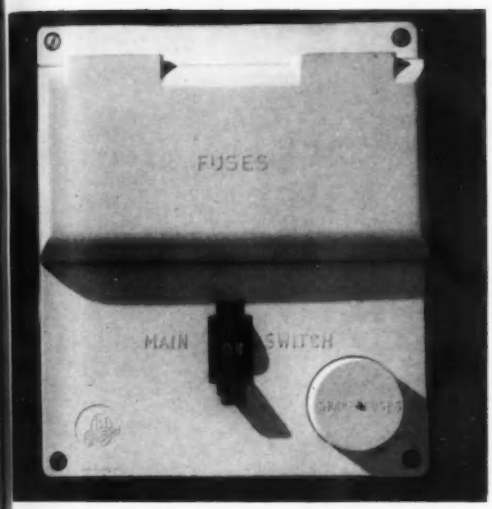
3 Combined switch fuses for the small installation (garage, outhouse or single power circuit). The porcelain unit on the right is not very different from the original designs of 1913; it is intrinsically safe in that it is impossible to remove the fuses without isolating the supply; the plastics unit on the left has almost superseded it (the switch is recessed to prevent damage to the dolly). MAKER *Midland Electric Manufacturing Co Ltd.*

4 A particularly fine piece of engineering design in cast aluminium, with the fuse cover plate hinged at the bottom. This unit is larger than most, and includes two 5 amp lighting circuits, four 15 amp power circuits, and two 30 amp circuits for ring or cooker. MAKER *Sanders & Co (Wednesbury) Ltd.*

5 This is a unique small plastics unit with a sliding cover; unfortunately the colour coded labels for fuse values have been carelessly applied in production. MAKER *Sanders & Co (Wednesbury) Ltd.*

6 *and* **7** Two units produced by companies that are also cable makers. They are suitable for cartridge or rewirable fuses. It is preferable that the fuse cover should be hinged at the base, as it then gives room to place spare fuses, etc, while changes are carried out. MAKERS **6**, *Siemens Brothers & Co Ltd;* **7**, *British Insulated Callender's Cables Ltd.*

8 A unit combining main switch, fuses for two lighting circuits, and four power circuits (or ring circuits for combined use). The fuses are of the cartridge type and colour coded, and full instructions for re-fusing are given on the inside of the pressed metal cover. MAKER *W. T. Henley's Telegraph Works Co Ltd.*



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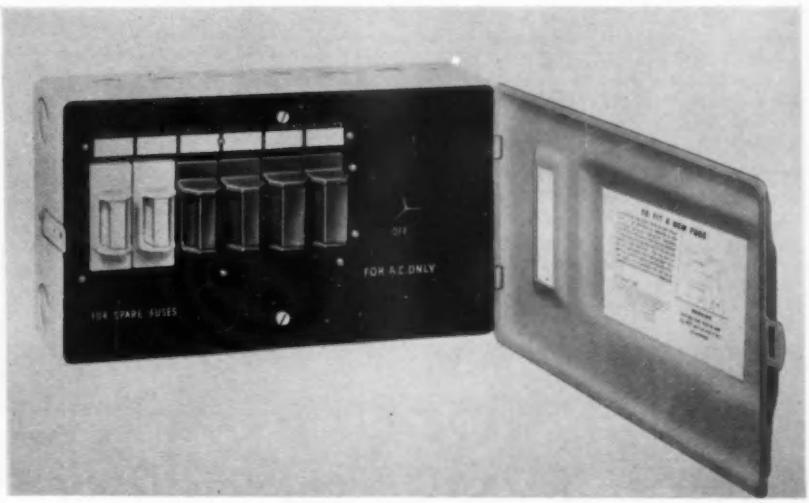

The main cable enters the house through the supply company's fuse to the meter; in the earliest days this assembly was superseded by an isolator switch, a main fuse, and distribution fuses protecting individual circuits, and it is only since the second World War that any serious efforts have been made to combine these into one neat unit. In 1942 a special committee of the Institution of Electrical Engineers was appointed to recommend wiring specifications for post-war work. This committee advocated the consumers' unit which now exists in many forms. But even some post-war houses still have a wooden baseboard on which a main switch, a main fuse, and a distribution fuseboard are mounted. The components used have changed little since 1910, when the first ironclad switches were introduced. Before this two brass covered switches were usually linked by a wooden bar, **2**.

The pioneers of the consumers' unit seem to have been the cable manufacturers rather than the accessory makers, mainly because they produced some form of termination for the main supply cable below the meter backplate. The introduction of the micro-gap switch in 1937 (this is discussed in the section on switches) meant that the main switch could be smaller, that it could be insulated, and incorporated in a box with all the wiring hidden behind a plate, so that even with the fuse box open the bare copper bars and wiring remain unexposed.

Attempts have been made to establish a colour coding (British Standard 1361) for different fuse values and some effort was directed towards simplifying the rewiring of fuses. It seems a pity, however, that one fuseboard with a switched indicator lamp which showed immediately which fuse had blown became obsolete almost before it was marketed. Fuses on radar equipment for the Services had neon indicators (which are quite cheap) connected across them to show which fuse had blown, and it is surprising that this idea has not been used in consumers' units, though it has just arrived in industrial units. However, the introduction of the miniature circuit breaker widely used in the United States, would make this provision unnecessary.

A further development in consumers' units is the use of the cartridge fuse, an admirable system when spares are readily available, but as liable to abuse as the rewirable fuse when they are not. This type of fuse is even more difficult to check than the rewirable type if it has blown, but one

manufacturer, appreciating this, provides a torch for testing fuses, 10. From the point of view of safety, appearance, and ease of fuse renewal the combined consumers' unit should be considered essential in any new or rewired domestic installation. Considerable care is devoted to the design of these units, perhaps because they are a fairly recent development; good appearance and ease of use are usually considered by most manufacturers.

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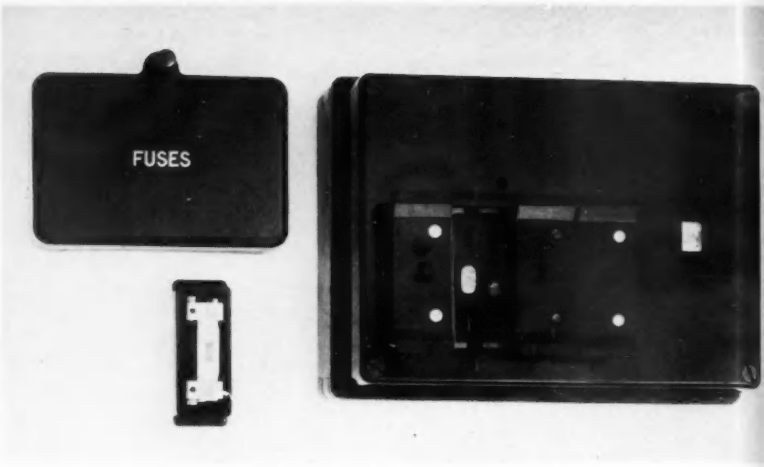
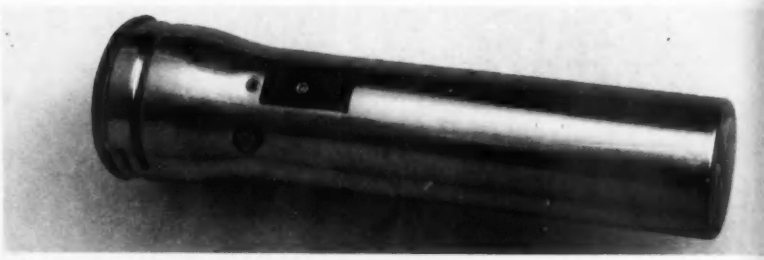


9 A small unit for rewirable fuses – when the fuse is removed it is still not possible to touch any live parts, but note that it is possible to have the main switch in the 'on' position when the fuse is removed. MAKER *George H. Scholes & Co Ltd.*

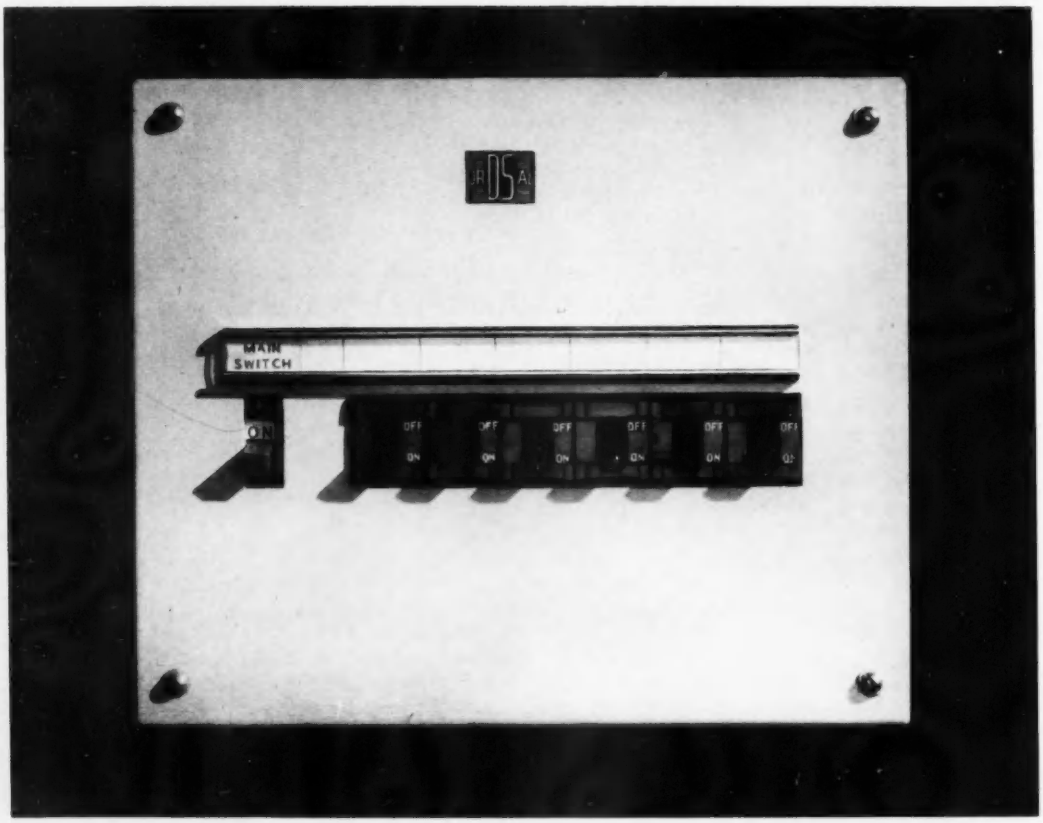
10 Checking fuses, especially of the cartridge type is difficult without a meter: by placing one end of the fuse against the stud near the normal operating bar of this torch, and the other anywhere on the case an immediate indication is possible – if the fuse is intact the lamp will light. The torch can also be used normally. An invaluable but simple domestic tool. MAKERS *Dorman & Smith Ltd.*

10



11 This type of unit is widely used in the United States, and is now beginning to find favour in this country for domestic installations. The miniature circuit breaker can replace the fuse; on overload the switch is thrown to the 'off' position, and cannot be put back into circuit until the fault is cleared. No fuses are required, so the unit cannot be used for any purpose other than that for which it is designed. MAKER *Dorman & Smith Ltd.*

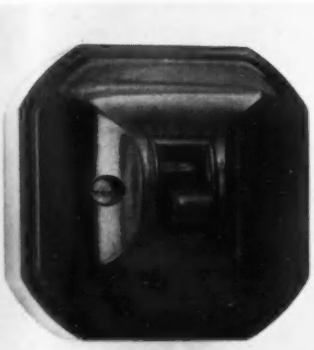
11

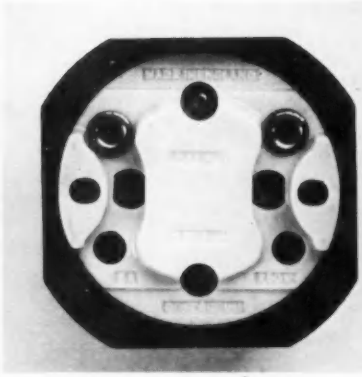


Switches

1 Early designs were cumbersome and were sometimes decorated to match the door furniture (Veritys' Ltd catalogue, circa 1898).

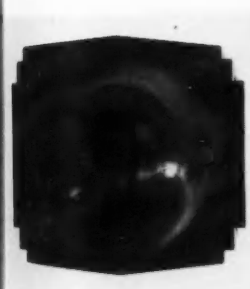
2 *and* 3 Front and back views of a surface switch with a porcelain interior, and a plastics cover – the design of the cover bears no relation to the interior. MAKER *Contactum Ltd.*

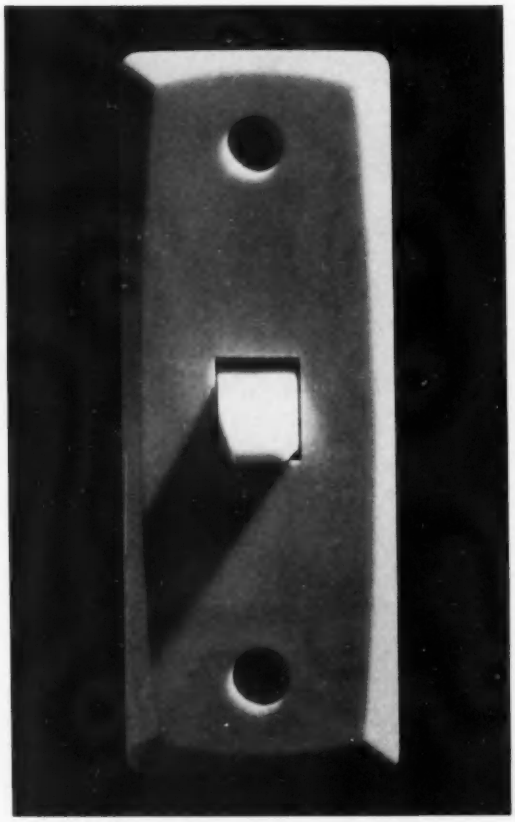




The first switches in general use were screwed to the wall, and made of wood with brass contacts. Switches are still wired to the surface where good appearance is not essential, and in low cost houses, especially overseas. The very earliest (1884) were rotary, and these can still be found in domestic installations on the Continent. In 1888 came the first lever switch, and it would seem that Veritys' Ltd produced a tumbler switch in 1892. At that time switches had fluted brass covers, and early catalogues show some very ornate examples resembling elaborate door handles. (This era of fussy decoration is not yet over in spite of the fact that switches are now smaller and often recessed into the plaster to make them even more inconspicuous.)

The first insulated switches were produced by J. A. Crabtree & Co Ltd in the early 'twenties and their development is of course paralleled by the development of plastics, which started a revolution in the design of electrical accessories. (There persists, however, the school of thought that porcelain is more suitable, and this material is in fact still widely used for both surface and recessed switches.) Wiring was set in conduit in the 'thirties, and in 1933 S. O. Bowker Ltd produced a switch for recessing into plaster. The earliest recessed switches used the same basic units with a different cover, and it is not unnatural that manufacturers continue this practice where possible. In 1937 the almost universal use of alternating current which allows a simpler design of slow break switch (the micro-gap switch), rather than the complex system of levers used to make a quick break, brought about a great reduction in switch size; but the dimensions of the British Standard wiring box have restricted the production of smaller switch plates. The introduction of brighter colours is a promising development.





4 The maker has topped the simple rectangular porcelain base of this unit with a modernistic cover. MAKER *S. O. Bowker Ltd.*

5 *and* 6 These complete departures from traditional switch design have been made possible by the introduction of the micro-gap switch. 5, the plate does not offer much protection to the surrounding decorations, but would be useful where space is restricted. 6, the push bar carries through the switch. 5, DESIGNER *Robert Cantor.* MAKER *New Day Electrical Accessories Ltd.* 6, MAKER *The Edison Swan Electric Co Ltd.*

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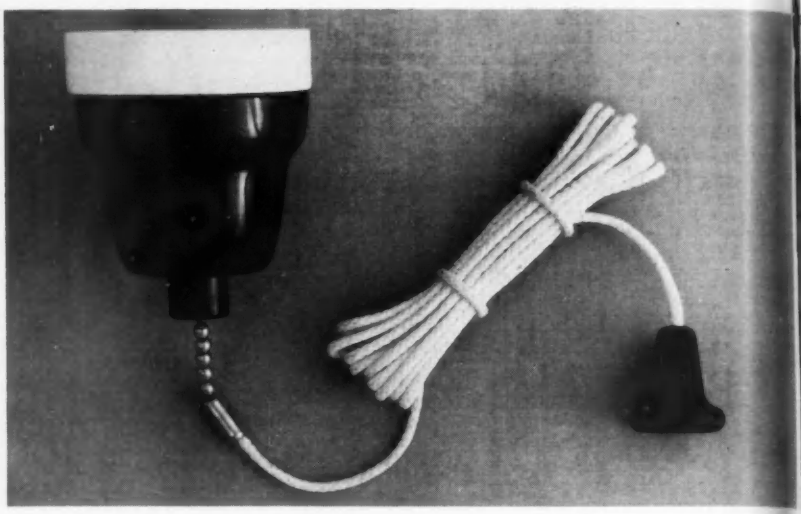

7 A ceiling switch for bathroom use. The pull at the base is better than most as it does not slip out of the fingers. MAKER *Walsall Conduits Ltd.*

8 *and* **9** Two switches on one plate – a logical development following the introduction of the micro-gap switch. The unit on the right is clumsy in appearance, and the square corners of the dollies are unpleasant to handle. The back of the left hand version indicates how careful design can lead to easier wiring. MAKERS (left) *MK Electric Ltd*; (right) *J. A. Crabtree & Co Ltd.*

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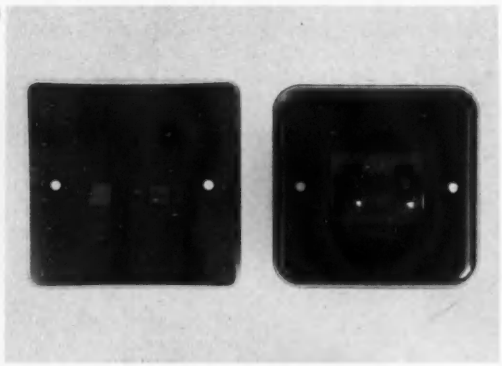

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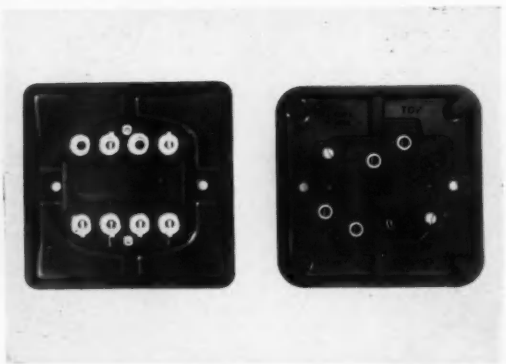

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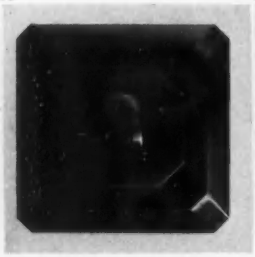

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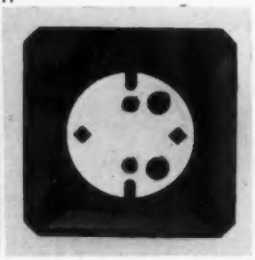
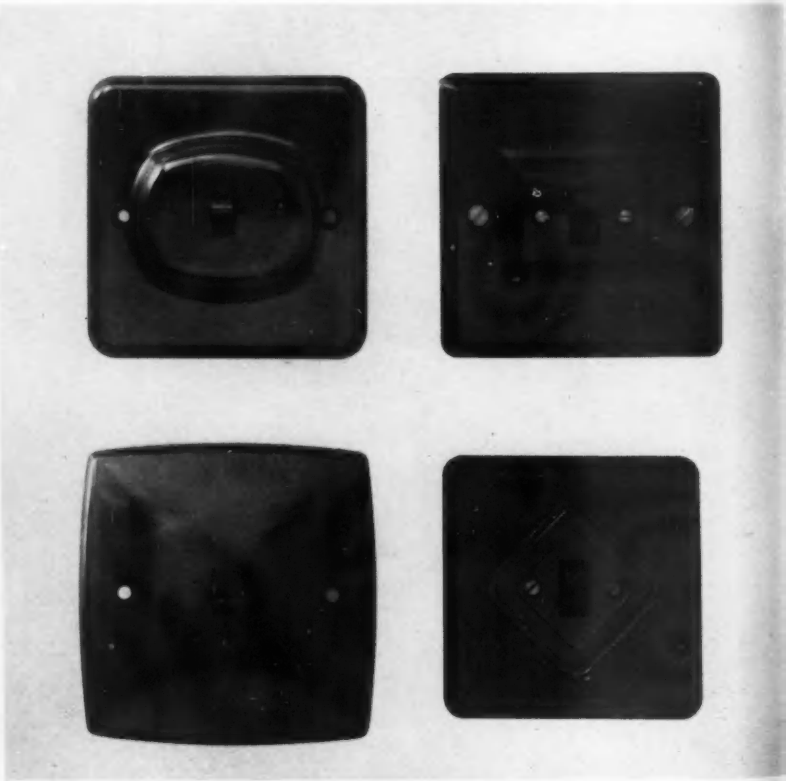
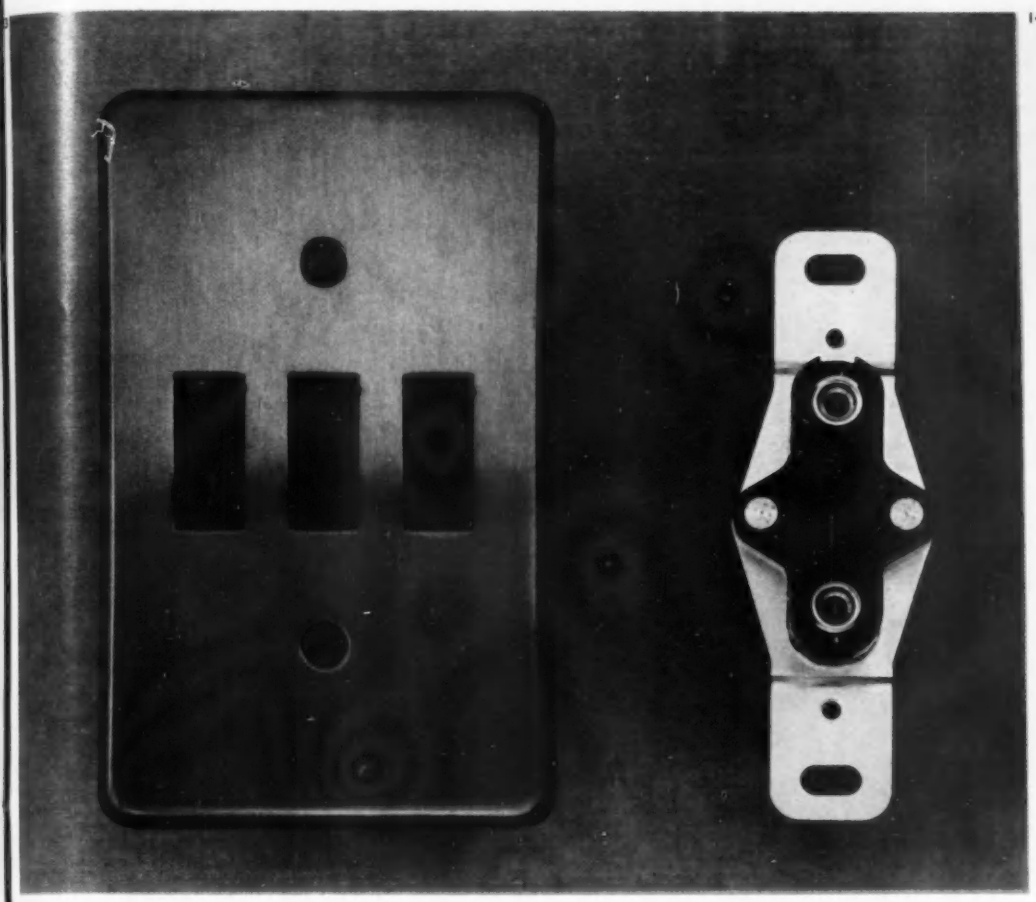


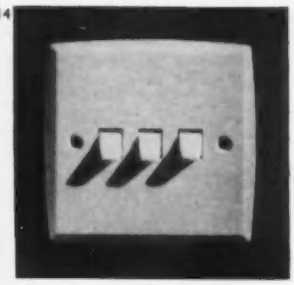
10 *and* **11** Front and rear views of a flush switch with porcelain base developed from the circular surface switch. Sharp corners like these do not facilitate cleaning. MAKER *Midland Electric Manufacturing Co Ltd.*

12



12 This assortment of switches shows how the efforts of manufacturers to produce something different often result in designs that are unnecessarily obtrusive. MAKERS (top left) *Volex Electrical Products Ltd;* (top right) *Contactum Ltd;* (bottom left) *Simplex Electric Co Ltd;* (bottom right) *Contactum Ltd.*





13 Designed for the American type of box, these switch units have special fixings to allow variations in assembled groups, and slots to allow adjustments for boxes when they are fitted off centre in the plaster. The bronze plate has a luxury look. MAKER *MK Electric Ltd.*

14 There are few domestic applications where three switches are required, but this unit is now available. DESIGNER *Robert Cantor.* MAKER *New Day Electrical Accessories Ltd.*

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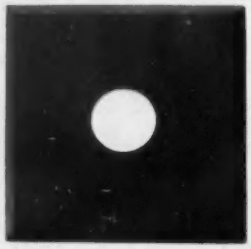

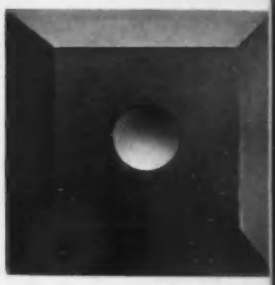

15 Here the same basic unit can be used as a flush or surface switch. This switch has many unusual features – the porcelain base contains a rotary action switch, the surface plate has cork corners to prevent rotation (one of the snags of ring fixing), and the inner plastics box is of the 'plaster depth' type, a new low cost development which does not conform to the normal British Standard conduit box. MAKER *S. O. Bowker Ltd.*

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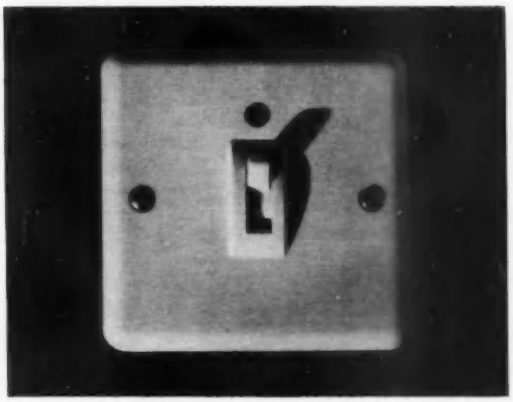

16 The neon indicator is a new development; this one is wired so that the light comes on when the switch is turned off, locating the switch in darkness. MAKER *Nettle Accessories Ltd.*

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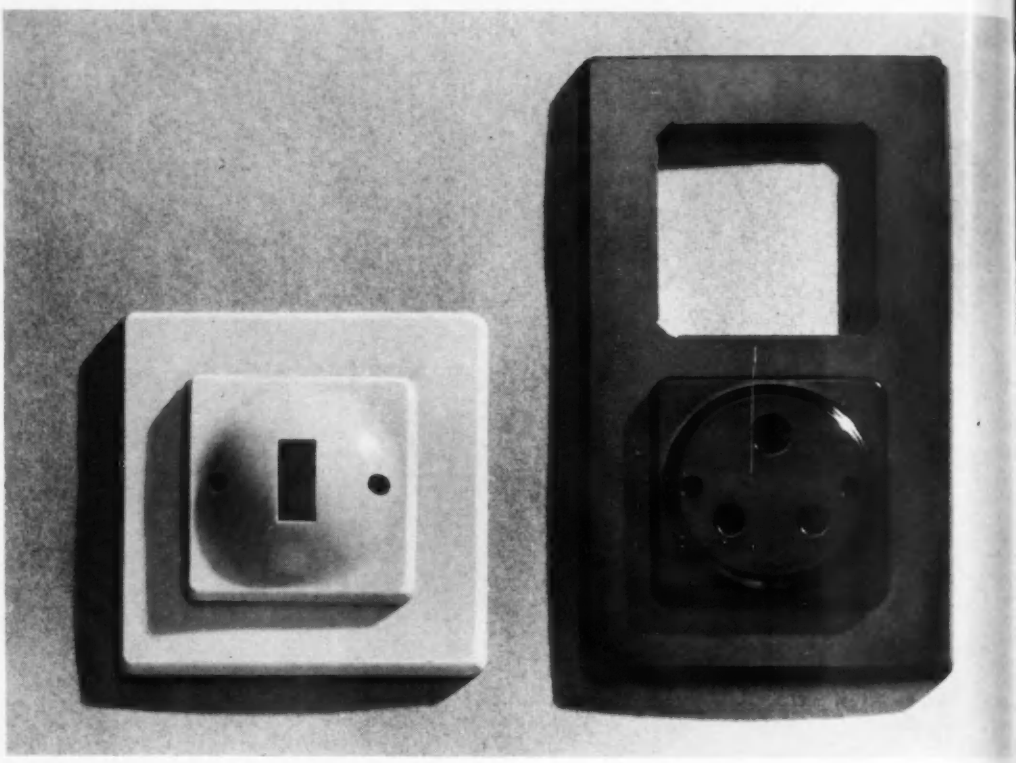

17 Unit assembly system allowing interchangeability of switches, sockets, bells, etc. The backplate is held in position by the units which overlap the opening; all are available in a wide selection of colours which can be combined. MAKER *S. O. Bowker Ltd.*

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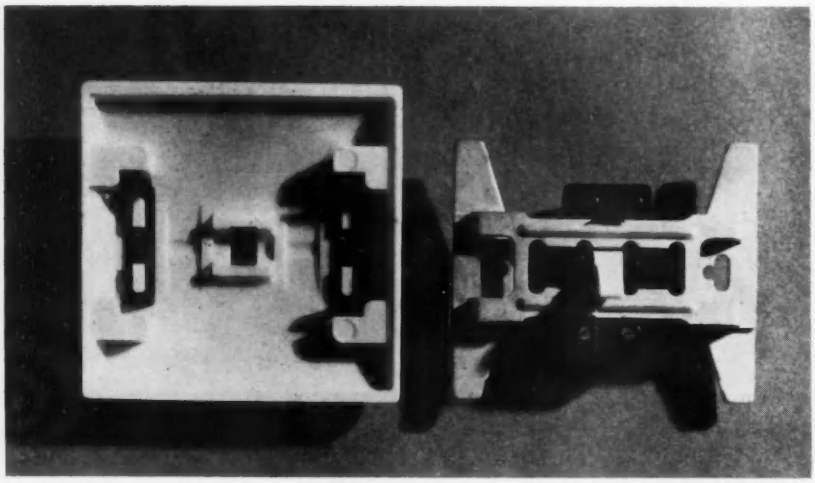

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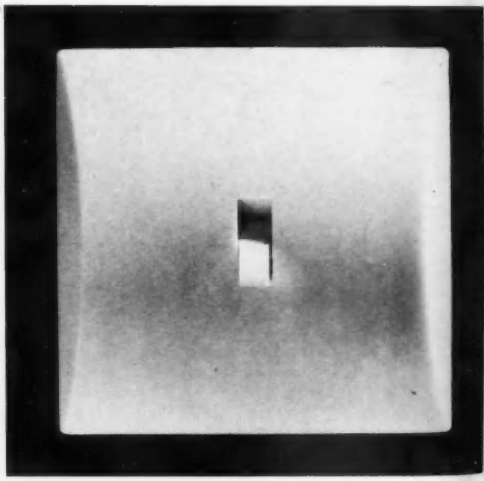

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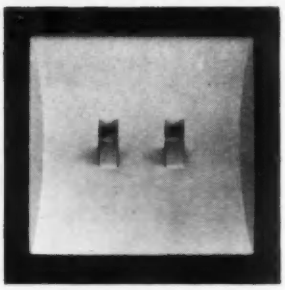

18, 19 *and* **20** One of the newest developments, this unit has steel springs fastened below the cover so that unsightly surface screws are no longer necessary. The technique is also used to simplify the assembly of the switch unit(s) on the spacing plate which is set within the wiring box; the same spacing plate is used for one or two units. These switches are available in a light grey plastics. MAKER *Falk, Stadelmann & Co Ltd.*

1

1 This first self-contained unit was introduced before the last war. It consisted of a number of standard parts assembled into a metal box. MAKER *MK Electric Ltd.*

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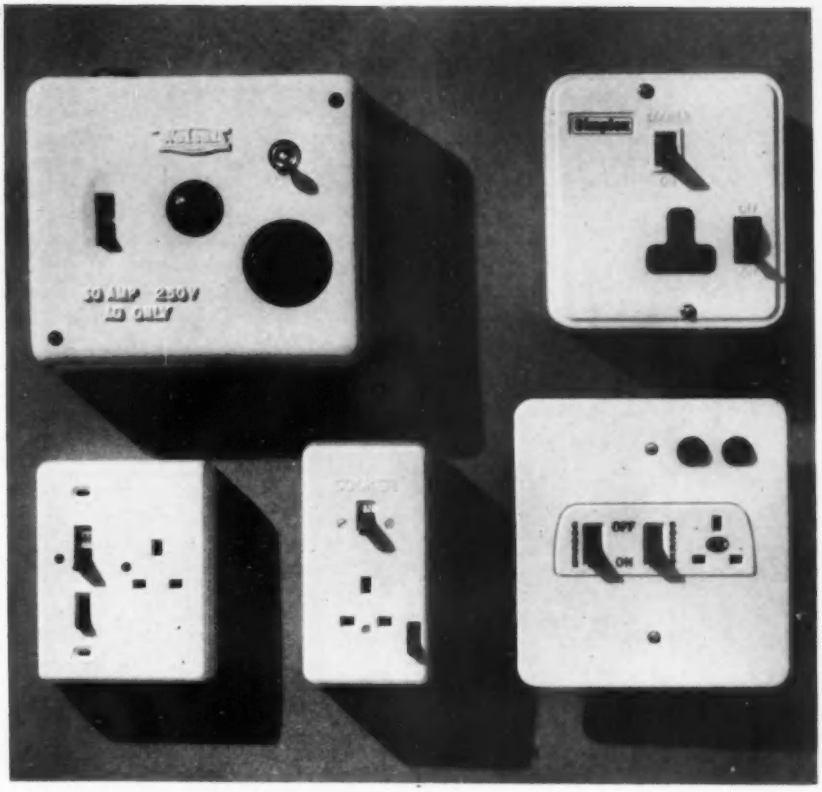

2 These units reflect various stages in post-war development. (Top left) a pre-war design still in production utilising standard parts in a heavy and cumbersome cast iron box. MAKER *Walsall Conduits Ltd.* (Top right) a pressed metal box with the trade name considerably clearer than the essential markings. MAKER *Simplex Electric Co.* (Below left) a white plastics moulding complete with neon lamp indicators – the switch for the socket is labelled but not well placed. MAKER *George Scholes & Co Ltd.* (Below centre) the smallest unit on the market; the switch is adjacent to the socket. MAKER *DS Plugs Ltd.* (Below right) a recessible unit; the white inset panel is of plastics, and the surround is in pressed metal, stove enamelled; the neon indicators could be nearer to the appropriate switches. MAKER *MK Electric Ltd.*
It should be pointed out that cooker switches are designed to British Standard 1833, but as the recess box is larger than necessary there has been a tendency to use surface-mounted units with a standard switch box, hence the varying sizes and shapes. The two units on the right are suitable for the BS box.

3 Where a water heater needs controlling from two points (say kitchen and bathroom) this pair of units is ideal. The switches are two-way, and both positions show by neon indicators whether the heater is 'on'; a clear wiring diagram is also included. MAKER *George H. Scholes & Co Ltd.*

Cooker & water heater units

Until the war most cookers were controlled by an ironclad switch fuse of what might be considered the industrial type. The introduction of smaller switches, and the use of cartridge fuses have steadily decreased the size of these unsightly units, so that they are now more in keeping with the modern kitchen. Today cooker units usually consist of two switches, indicators, and a socket; they are little bigger than a normal switched socket, and most cooker units provide for an electric kettle or other appliance which may be separately fused. The use of indicator lamps is desirable with electric cookers and water heaters, and the latest types are fitted with miniature neon lamps instead of the larger pilot lamps which had attendant ventilation problems as they dissipated heat.

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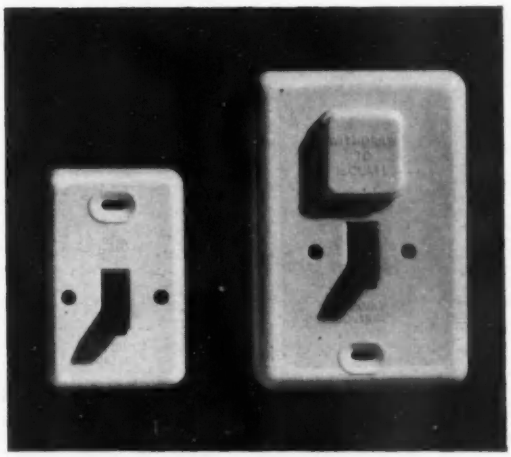

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4 Water heaters and other large current consuming appliances have usually been controlled by ironclad switches, or large tumbler switches, but this surface double-pole switch with indicator is capable of carrying 30 amps, though the rating is not visible without dismantling the switch. MAKER *MK Electric Ltd.*

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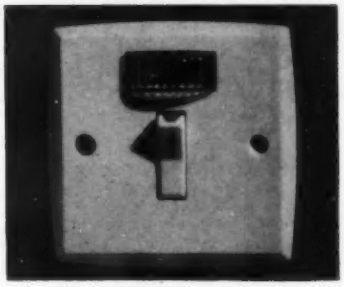

5 A recessed switch to carry 20 amps (the rating is not marked); the lamp housing is designed to act as a dispersal lens, but is inclined to look overpowering. DESIGNER *Robert Cantor.* MAKER *New Dey Electrical Accessories Ltd.*

Plugs & sockets

It seems astounding that the use of plugs and sockets should go back as far as 1881, since most of the appliances we now use had not then been invented. Some early sockets were individually fused, and this method of fusing was advocated even as late as 1942; but the fused plug with three pins and a shuttered socket became the standard in 1947 (British Standard 1363). The two-pin plug gave way to the three-pin as more appliances made of metal came on to the market; from the chaos of pins of all sizes and spacings came the three-pin (flat sided) and the shuttered socket to British Standard 1363 which, in spite of its limitations, is becoming universal in this country, though there are some local authorities specifying obsolescent or non-standard items for reasons best known to themselves. It is, however, in all probability the safest system in the world; the standard of manufacture is much higher than that of most countries. The third pin, which is an essential safety measure in these days of appliances made partially or wholly from metal, first came into use about 1912, when the Home Office regulations for factories and workshops started to enforce its use.

The early two-pin sockets were made from wood, and were of quite arbitrary dimensions; gradually most firms adopted either the 'Lundberg' or the 'Tucker' standards for five amp plugs (the pin sizes of these differed). British Standard 73 of 1927 attempted standardisation of pin spacing and dimensions, but for various reasons many manufacturers were not prepared to accept its recommendations. There were, of course, commercial grounds for rejecting the standard; only X's plugs would fit X's sockets. But there were also quite reasonable departures on the grounds that this standard was not the best – in 1923, for example, MK Electric Ltd had produced a unit with the spring contact in the socket instead of the plug, and thus paved the way to the present 13 amp sockets; and in 1926 'Wylex' produced a three-pin plug and socket with a round centre pin and two flat pins.

The introduction of the 13 amp plug and socket in 1942, as a result of recommendations of a committee of the Institution of Electrical Engineers, was an important and controversial post-war development. The committee advocated that as there were insufficient sockets in the average house a means should be devised of increasing the number of sockets without greatly increasing the wiring cost. This entailed the necessity for fuses in the plugs, but it is an essential part of the system that the value of the fuse should be such that

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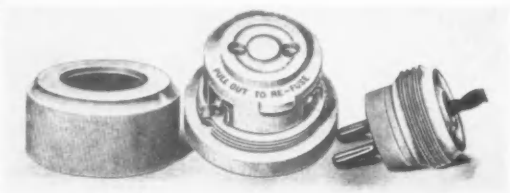

1 Plug and fused socket of 1889. MAKER *General Electric Co Ltd.*

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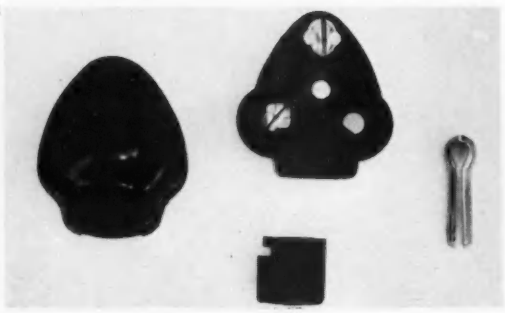
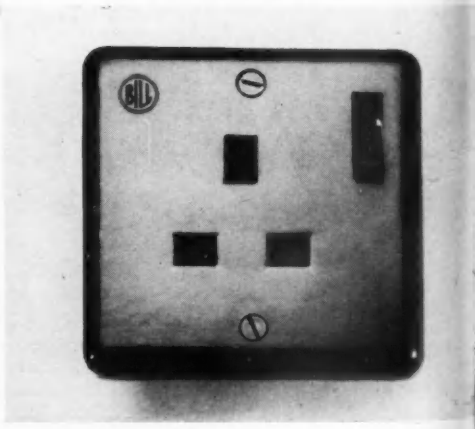


2 This 15 amp plug is particularly ingenious; the wires are held in the tops of the split pins by the pressure of the top plate, and no tools are necessary to fix the wires. MAKER *The Edison Swan Electric Co Ltd.*

3

3 Surface sockets have disadvantages, as they get in the way of furniture and can be damaged by vacuum cleaners; replacements have still to be made, however, and in some types of housing surface sockets are still specified. This is typical of the 5 amp units in production. MAKER *T.M.C-Harwell Sales Ltd.*

4



4 The flat pin socket is a square unit designed for a British Standard wiring box; it is available with or without switch, and now also with a neon indicator (not included in this model). The switch is better fitted at the top than at the bottom as it is not so likely to conflict with plug and cable. MAKER *Bill Switchgear Ltd.*

protects the appliance and flex connected to it. It was in the first place misleading to call it a 13 amp plug because manufacturers immediately sold it with 13 amp fuses; most people who connected it did not trouble to get the right value, if in fact they knew that there were three ratings available. The difficulty may have been overcome if the lead taken by some manufacturers of noting the fuse rating on the plug could have been carried through, but even those who did so soon lost heart when British Standard 1362 relating to the fuses was modified in 1956 to include four ratings (this was brought about by a change in the load capacities of flexible cables). When choosing plugs and sockets it is alarming to see the variety of designs manufacturers have produced, and yet most of them meet the specifications of the British Standard.

What does a designer of a plug have to consider beyond meeting the technical requirements and producing a plug which is easy to mould and does not waste material? The following points seem worthy of consideration:

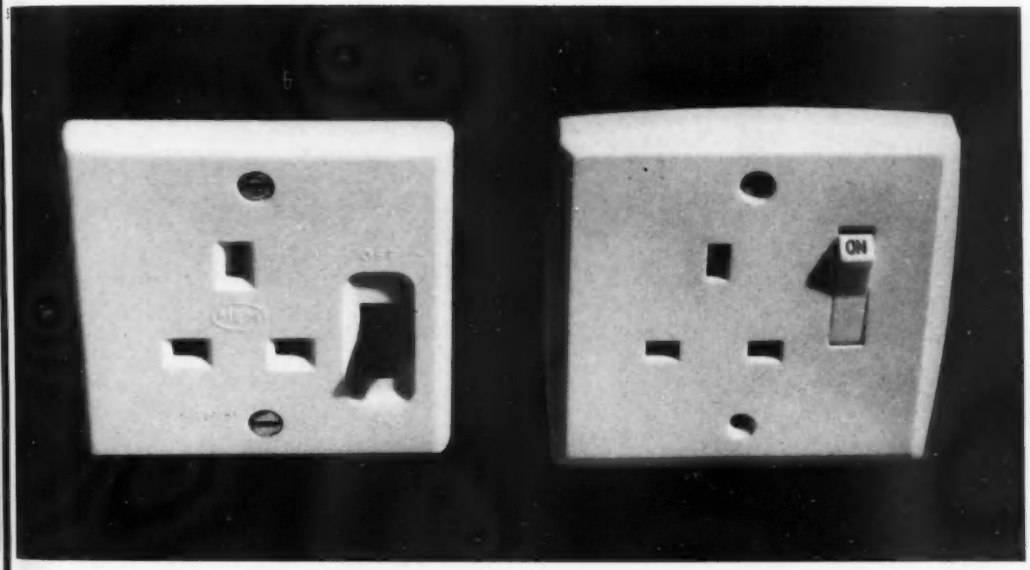
1 Ease of wiring – this implies the use of one readily accessible domestic tool (screwdriver), the avoidance of washers, and the cable cut so that the three insulated conductors are all of the same length. Many manufacturers fall down on this almost basic requirement.

2 A neat appearance with a good grip, for some sockets are stiff. The appearance of plugs has sometimes been considered to be more important than their practicability (in spite of careful wording in the British Standard stressing the need for a finger grip).

3 It is preferable that fuses should be replaceable without taking the plug apart.

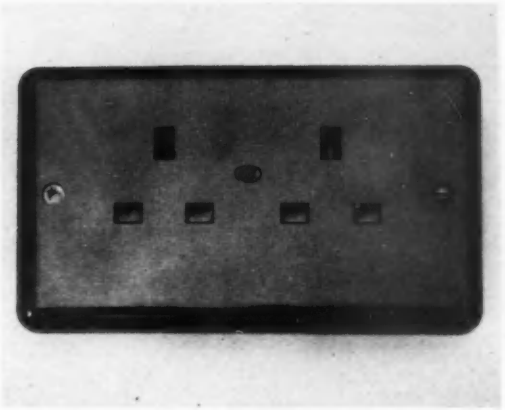
4 The fuse value inserted should be indicated on the base of the plug. In this respect, it is surprising that self adhesive labels have not been used. These could be provided with the spare fuses, and provision made for them on the original plug sold.

Latest developments in socket design include the introduction of the double socket, and the socket with a neon indicator. Adaptors are frowned upon by the authorities, but are not so dangerous now that they are available with fuses, although the correct solution must still be more sockets. Even a humble living room these days might well have television, radio, clock, table lamp, standard lamp, and electric fire, with spare provision for vacuum cleaner, etc. It would be interesting to discover how many rooms can boast of seven sockets.



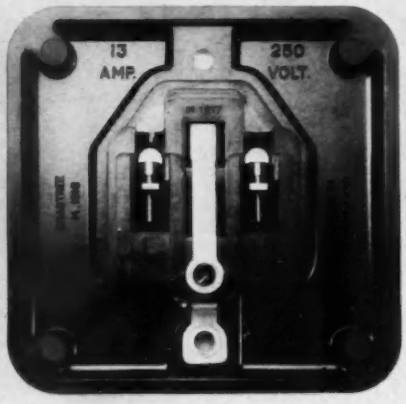
5 Two interesting new developments; left, a reset dolly to prevent damage; right, a lever switch with clear 'on' indication which can be read from above. MAKER (left) *Midland Electrical Manufacturing Co Ltd*; (right) DESIGNER *Robert Cantor*. MAKER *New Day Electrical Accessories Ltd.*

6 A typical surface unit. MAKER *T.M.C-Harwell Sales Ltd.*



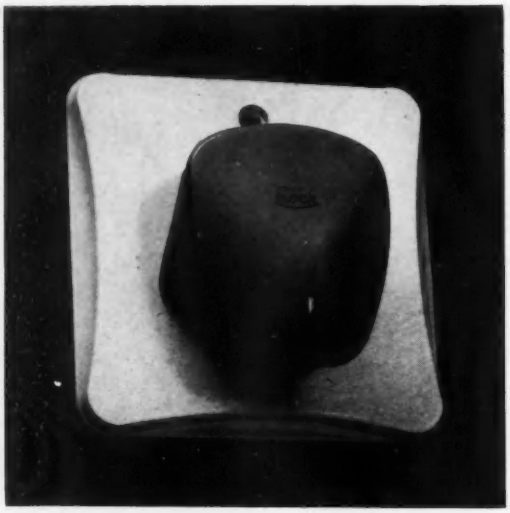
7 A pioneer in many types of electrical accessory, this company produced the first double unit which has many domestic applications. MAKER *MK Electric Ltd.*

8



8 The British Standard calls for adequate means of clamping up to three cables, size 7/·029 inches; this is quite a task in some round holes where the cables are retained by a grub screw. This socket uses a slot for the live and neutral, but resorts to normal practice on the earth terminal where the British Standard makes no recommendations, though in use three cables size 7/·029 inches might well be looped. MAKER *J. A. Crabtree & Co Ltd.*

9



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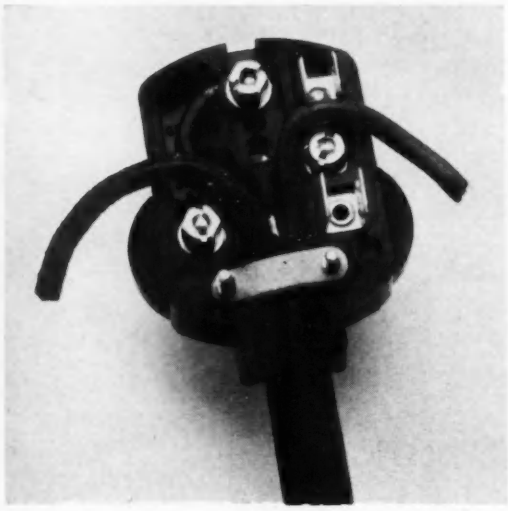
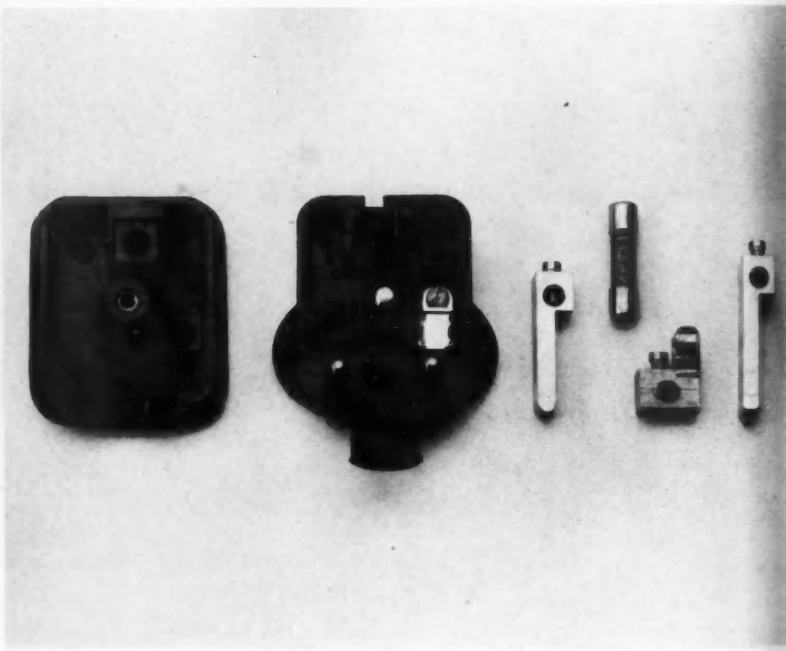


9 This plug, by a company which has pioneered the use of colour in its accessories, has an excellent finger grip, although the base is a little arch in its styling. MAKER *Ranton & Co Ltd.*

10 Plugs are mostly wired by the amateur, and they should be easy to wire with simple tools. This is one of the most difficult plugs to wire. As for normal practice, all the wires have been cut to the same length, which is obviously not suitable here. The cable used is the largest called for in normal practice, and there is barely room for it. While it is true that electrically the best contact is made between a washer and a backplate under pressure, it takes far longer to wire than a hole and grub screw: furthermore it is easy to lose the washer, as the nut and washer have to be removed to get the loop of wire over the screwed stud. MAKER *MK Electric Ltd.*

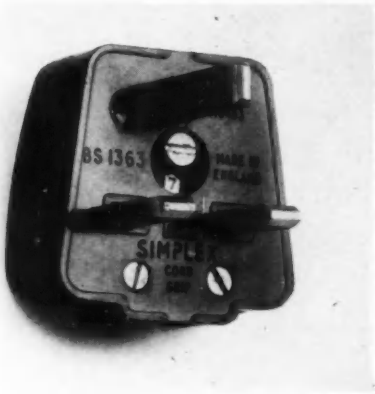
11



11 This plug is easy to wire because it has detachable pins, and sufficient space to tuck away a little excess wire when the three wires are cut to the same length. It is convenient from the user's point of view since the one screw to fix top to bottom is retained in the bottom of the plug when it is taken apart. This plug also has a good grip, and a flexible outlet to prevent the flex from chafing. MAKER *The Wandsworth Electrical Manufacturing Co Ltd.*

12, 13 *and* **14** Three different methods of indicating fuse rating; there is a clear need here for standardisation to assist the user. MAKERS, **12**, *Simplex Electric Co Ltd*; **13**, *MK Electric Ltd*; **14**, *Bill Switchgear Ltd.*

12



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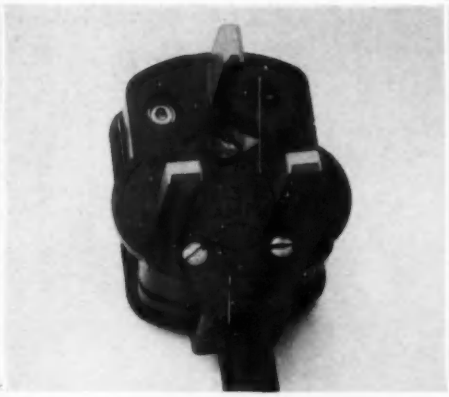

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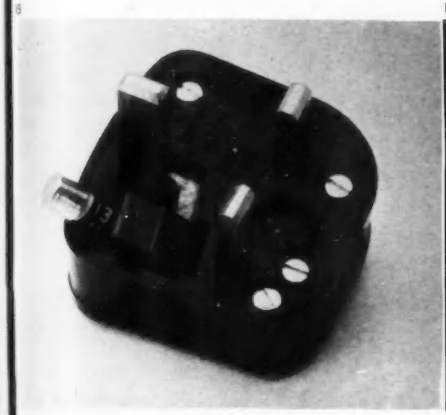

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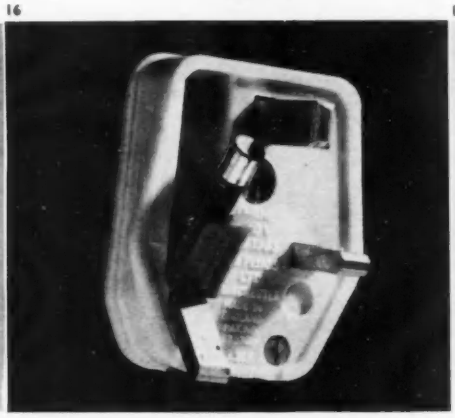

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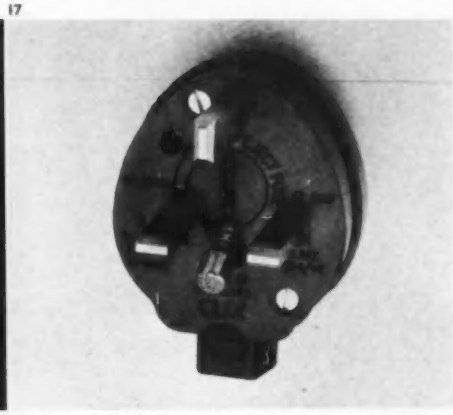
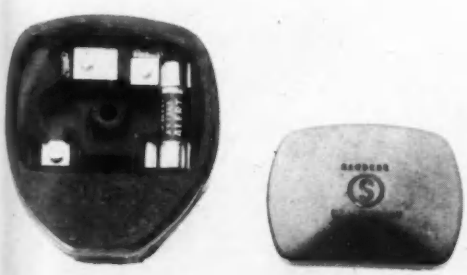


15, 16 *and* **17** Most plugs must be taken to pieces before re-fusing. Three different solutions to this problem are shown with the fuses partially withdrawn. MAKERS **15**, *Volex Electrical Products Ltd*; **16**, *DS Plugs Ltd*; **17**, *The Edison Swan Electric Co Ltd.*

18



18 A rubber plug. Rubber is not a material normally used for plugs as it is more difficult to mould than plastics; but it is valuable where appliance plugs are treated roughly (on vacuum cleaners, drills, etc). MAKER *Sanders & Co (Wednesbury) Ltd.*

19

19 One of the few plugs which is sold with wiring instructions, including cutting jigs. It has an ingenious retained clamp for wiring two of the wires, and an excellent finger grip. MAKER *Bill Switchgear Ltd.*

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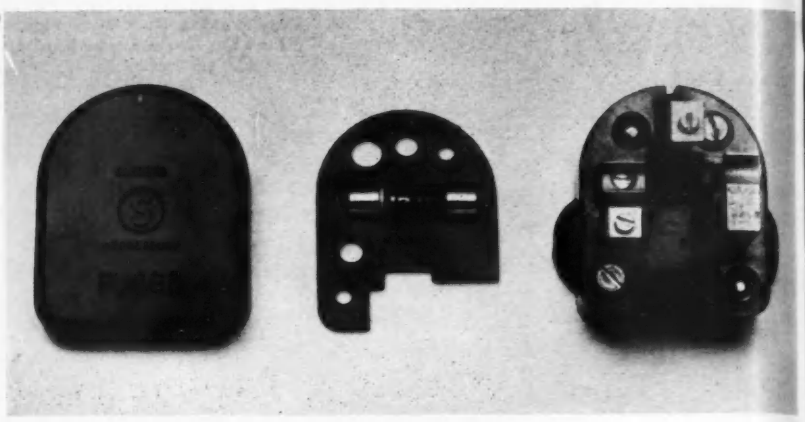

20 In this plug the fuse rests on top of an insulated plate (centre) which covers the wiring when the top is removed. MAKER *Sanders & Co (Wednesbury) Ltd.*

21

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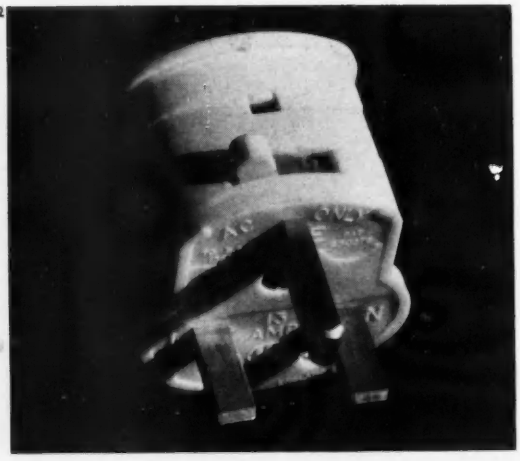
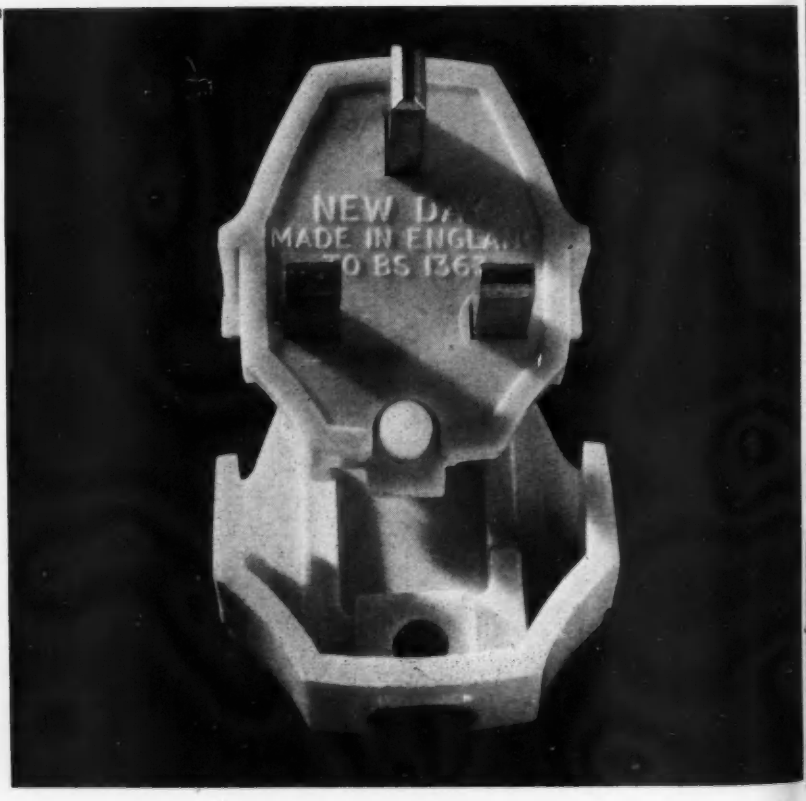
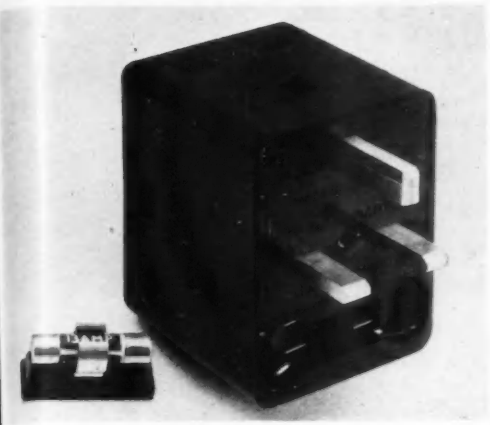


21 *and* **22** This plug (left) has a neon indicator which is particularly valuable when used with electric irons, etc; it also indicates whether the fuse has blown. Right, a plug fitted with a switch, a feature which is occasionally desirable when the sockets are not switched. MAKERS (left) *Walsall Conduits Ltd*; (right) *MK Electric Ltd.*

23

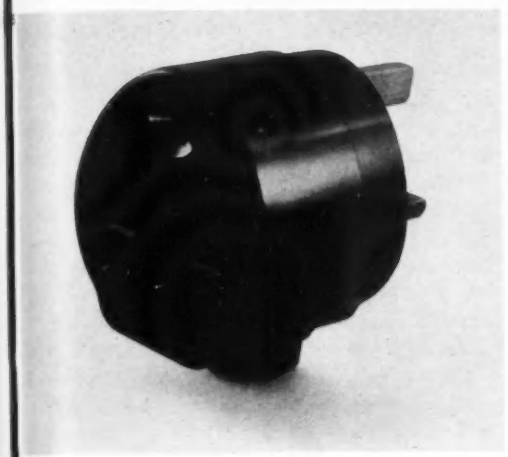


23 Most plugs consist of a base and a top retained by one or two screws, but this original design has a slide-on top retained by a nylon screw which also acts as the cord grip. DESIGNER *Robert Cantor*. MAKER *New Day Electrical Accessories Ltd.*



24 *and* **25** Adaptors are not recognised in any British Standard, and if homes had an adequate number of sockets they would not be necessary. If an adaptor is used, it should be fused so that its total load does not exceed 13 amps. **24**, a well engineered example considering its internal complexity. **25**, a plug which is also a socket for a further plug. The particular snag with this system is that care must be taken in the order of 'piling up' or the fuse nearest the socket will blow; this in turn may lead to the replacement being rated too high for the plug used individually. MAKER *The Edison Swan Electric Co Ltd.*

26 A non-standard ring plug-socket similar in application to **25**; it was partially the pioneer work of this company which led to the ring system. The round centre earth pin can be used as a lock. MAKER *George H. Scholes & Co Ltd.*



26

Conclusions

What then of the future? The public needs educating on the question of fuse values; the householder must demand more sockets; manufacturers should pay more attention to detailed design of plugs so that they are easier to wire up, easier to plug in and out and provided with fuses that are easier to replace. The use of indicator lamps on sockets and switches to show their position or indicate whether they are on, is a welcome development, although some manufacturers make unsightly lamp housings. Consumers' units are generally neat and easy to maintain.

With a few minor exceptions, manufacturers in this field are determined to provide well made accessories (which are incidentally far superior to those of many countries abroad). Most of them are aware of design problems, if only because of the very high cost of the tools involved. But in spite of this, very few firms admit to having used a consultant designer, and it is evident that most accessories are developed in the drawing office where design for convenient production tends to rule out other considerations. Competition is fierce and manufacturers are designing for price rather than the convenience of users; this competition is exacerbated by the cheap and shoddy goods on sale in multiple stores, some of which claim to be designed to the British Standard and fall down on one of the first requirements – that the manufacturer's name or mark should be clearly and indelibly marked. Purchasers need not read the British Standards, but they are safe with branded goods, and experience will soon show which are the best in service.

For reference

'Cartridge fuses for domestic consumers' units', British Standard 1361; British Standards Institution, 2 Park Street, W1, 3s 6d
'Cartridge fuse links for use in plugs', British Standard 1362; British Standards Institution, 2s 6d
'Consumers' Electricity Control Units', British Standard 1454; British Standards Institution, 5s
'Electric Wiring Systems', British Standard Code of Practice CP 321.101; British Standards Institution, 5s
'IEE Wiring Regulations', 13th edition; Institution of Electrical Engineers, Savoy Place, WC2, 6s
'Two-pole and earthing pin fused plugs and shuttered socket outlets', British Standard 1363; British Standards Institution, 5s
'Two-pole and earthing pin plugs, socket outlets and socket outlet adaptors', British Standard 546; British Standards Institution, 6s

Guidance for shoppers

CONSUMER NEEDS 8

The Consumer Council, recently established as an autonomous body, though under the wing of the B S I, will help to solve many of the problems raised in the previous articles in this series. Here the Consumer Council's information officer outlines its structure and its aims.

ELIZABETH GUNDREY
the author of this article, is the Consumer Council's information officer, and editor of 'Shopper's Guide.'

Interest in consumer needs is mounting. As this article goes to press it is announced that a new organisation, the Association for Consumer Research Ltd, has been formed. The Association is financially independent of the Government and industry, and intends to rely on private subscriptions for its support. It will test consumer goods and report on them in its quarterly journal 'Which ?'.
On November 7, at 12.30 in the Over-Seas League, St James's, SW1, the D I A will hold a lunch meeting on 'Consumer Protection', with Mrs S. H. Shepheard, secretary, B S I Consumer Council answering questions put to her by Miss Frances Chadwick of the 'Economist', Tom Hopkinson, journalist and critic, and Michael Farr, editor DESIGN.

THE SHOPPER NEEDS MORE GUIDANCE. That theme has dominated one article after another in DESIGN this year. The arguments have run like this:
The layman cannot judge the technicalities of many goods today without expert guidance.
The manufacturer is too far removed from his customers always to know if his goods really meet their needs.
The advertiser is more persuasive than informative.
The Press, which fears the libel laws and is liable to be dependent on advertising, may perhaps not give impartial guidance.

So what is the solution ? I believe the recently formed Consumer Council has the beginnings of an answer. Or, rather, two answers. For no one solution will satisfy every type of shopper: the intelligent *and* the barely literate, the seeker after top quality *and* the one for whom economy must come first.

The intelligent shopper wants the fullest possible details, and is prepared to read and understand a leaflet or label. He will appreciate the sort of balanced criticism in, for instance, the test reports of the American Consumers Union. He is prepared to pay for this service; just as, if he has got the money, he is prepared to spend it on buying top quality. He is a minority, but an articulate and influential one.

Then there is the other shopper, the majority. Even if offered this kind of information free, he would make little of it. And even if told which was the best of a range of goods, he might not want – probably could not afford – to buy it. He shops at the mass market, down-to-a-price level. And what he wants to know – without a lot of words – is which, of several similar items, can be relied on for reasonable service. To this shopper, a quality mark appeals: something that, like the old 'Utility' mark, says to him "Well, at the very least, this will stand up to fair wear and tear".

Any scheme for consumer protection which offers only one approach is merely toying with the problem.

The Consumer Advisory Council began in 1955 as part of the British Standards Institution, its first function being to advise on basic quality standards for consumer goods. There are now nearly one hundred standards of this kind, but they are voluntary: some makers conform to them, some not. The next step, obviously, was to mark those which do conform so that the shopper may know. Hence the kitemark, shown here, which can be found on furniture, bedding, pressure cookers, dustbins, etc, of at least a given basic quality.

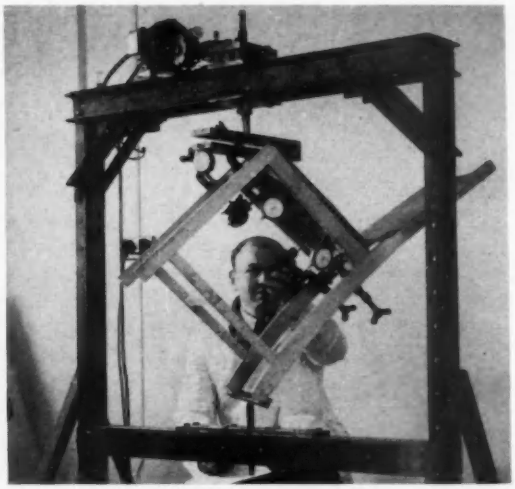
So far, so good. But here difficulties arise. Makers entitled to use the mark sometimes abstain because they want their own trade mark to get all the prominence, or because they maintain that their standards are already known to be very high. Few members of the public have learnt to recognise this mark, still less to look for it. And there are usually no words on it to explain what it implies. All these problems are known to the Consumer Council, and it is working on them. Understandably, progress is slow when the funds for publicity are limited.

Unlike most other marks intended to give some guarantee of quality, the precise characteristics that go with a B S I kitemark are defined and published. This is important, for there are too many privately sponsored marks about, of which the exact meaning is obscure – indeed, in some cases, a guarded secret. They may only confuse the shopper. Rightly, the Woollen and Worsted Trades' Federation has warned its members against adopting unofficial specifications of quality.

Publishing facts

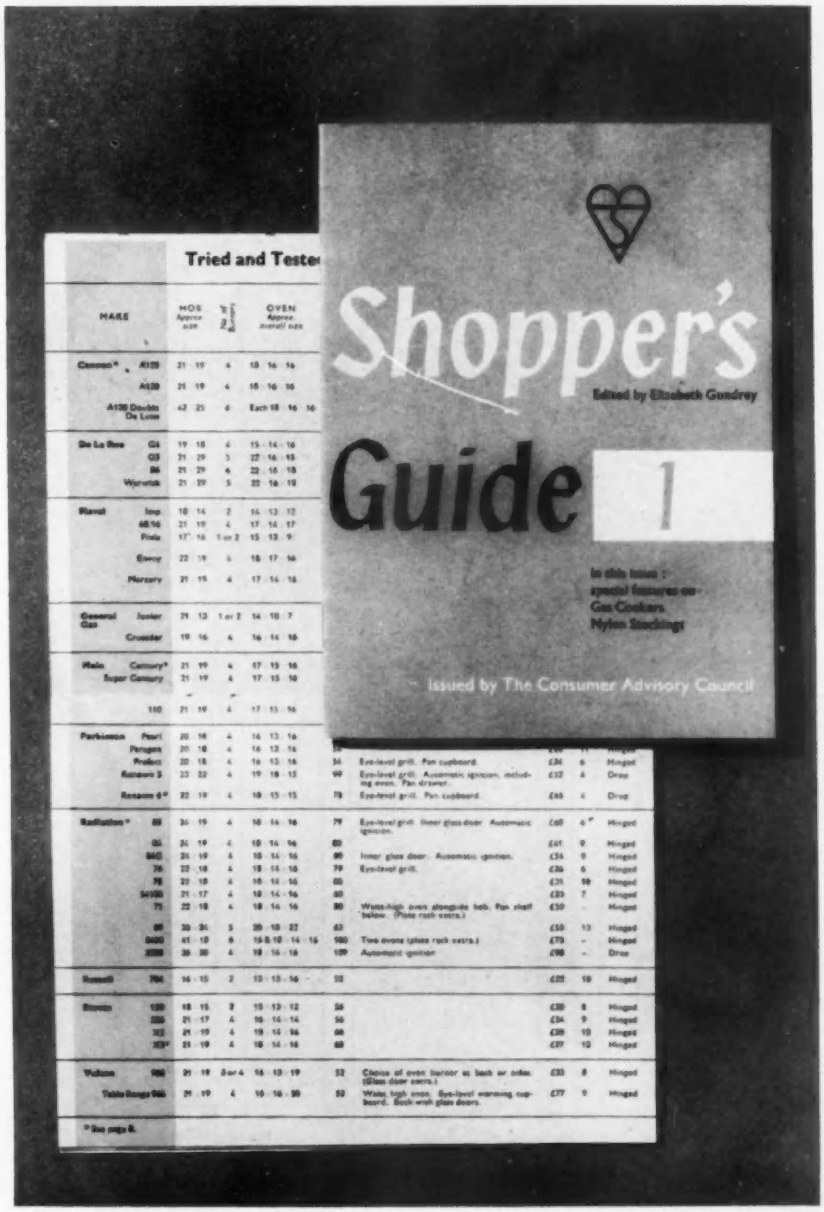
The next job the Consumer Council undertook was to encourage informative labelling, especially on textiles. It would like to see, for instance, furnishing fabrics labelled with a statement of how fade-resistant they are, how shrink-resistant, and so forth, as well as of the fibres from which they are made. To measure such properties, methods of test are needed. And again comes the problem of persuading firms to adopt such labels.

The council's latest development is the setting up of an associate membership scheme. This is the part likely to appeal especially to the intelligent shopper. Anyone can become an associate by paying an annual subscription of 10s. Members can then seek advice before buying, help if they have been sold shoddy goods, and, incidentally, get free tickets to exhibitions of use to the shopper. But the main purpose of joining



Furniture entitled to bear the kitemark is subjected to various endurance tests by the B S I. These illustrations show how a chair is tested to give the effect of a 16 stone man tilting the chair forwards, backwards and sideways. The test reproduces this sort of usage by applying pressure of 125 lbs sideways, 150 lbs on the front legs and 175 lbs on the back legs. The chair is subjected to this strain 50 times, after which, if it shows no ill effects, it goes on to further tests.

ABOVE The kitemark of the British Standards Institution can be respected for the following reasons: the qualities it governs are published for all to read; goods tested are random samples, not specially provided by the manufacturer; BSI is not dependent on fees paid for the right to use its mark; above all, the mark certifies not merely the one sample but the maintenance of a consistent level of quality – by constant re-checks of samples, and by inspection during manufacture.



RIGHT 'Shopper's Guide' issued by the Consumer Council to its associate members, aims to publish the fullest possible facts about the goods available in the shops. For example, the first issue contained an article on gas cookers, which included a table, illustrated here, listing with comments, those cookers that have passed efficiency tests. 'Shopper's Guide' is edited by Elizabeth Gundrey, and designed by Leslie McCombie.

Guidance for shoppers

is to receive 'Shopper's Guide', a periodical for private circulation only, intended to give the fullest possible facts about goods in the shops.

As previously mentioned, magazines, though full of articles about consumer goods, rarely give the whole story. They report what is new; they may praise; but fear of libel or of their advertisers usually prevents them from making adverse criticisms. Nor are they, as a rule, able to carry out technical tests on such things as electrical equipment. By the very incompleteness of what they say, they sometimes mislead.

'Shopper's Guide', however, carries no advertising, and the facts it gives are based on independent tests wherever practicable: either laboratory tests or practical trials, or both. Brand names are quoted when helpful, but, of course, most goods on sale are not branded. The current issue, for instance, compares a number of electric blankets, of which some do and some do not qualify for the kitemark; those that qualified are named – so are two that failed the tests of safety. Practical trials on a selection of wall can openers are described; a well known make (highly priced) is criticised in several respects – for instance, because it will not open tins of all shapes – while cheaper ones are praised. Seven spin driers are compared, and figures quoted to show which makes extract most water, which least. And so on. But because it could mislead there is no attempt to make up the shopper's mind for him: he is advised what points to look out for, what questions to ask; the decision is left to him. It is clear that there is a very real demand for unequivocal information – the facts, and *all* the facts – about consumer goods. 'Shopper's Guide' points out where defects lie, as well as indicating strong points; and this is, as 'The Economist' has said, "militant" and "revolutionary" for this country.

A natural corollary to testing and comparing existing goods is the initiation of improvements; Sweden has shown how well the two go hand in hand, and, looking into the future, there is no reason why the Consumer Council should not follow suit. In fact, one good example already exists in the British Standard fireguard (DESIGN June page 53) which was developed in collaboration with the Women's Advisory Council on Solid Fuel. The Consumer Council has the co-operation of an advisory committee representing, through the women's organisations of the country, three million housewives – a ready-made and economical organ for market research into needed improvements.

Paying the bill

BSI, the parent body, draws about one-third of its income from industry, the rest from publications and the Government. But the Consumer Council has its own Government grant to give it independence, although this is not sufficient if it is to give the comprehensive information service that is its *raison d'être* and, above all, if it is to carry out its own tests to the extent that is needed.

The building and staffing of a test house is being considered. Meanwhile the testing has to be commissioned. This can be costly: some domestic appliances cost over £100 each to test. Goods should be bought in the shops because, if supplied by the maker, they may be unrepresentative. To see if later productions are still up to the original standard, the tests should be repeated at intervals. It is, of course, in connection with the expensive goods that shoppers most want guidance before risking their money.

This problem of financing tests for consumer goods can be compared with that of American Consumers Union. Out of a population of 170 million, CU has – after 20 years' work – attracted only 800,000 members, one half of one per cent of the population. Its members' average income is £2,000 (£300 more than the national average). Given equivalent support here the revenue produced from 10s annual subscriptions would be very small: much less than one tenth of that available to CU.

In other countries (notably Norway and Sweden) consumer organisations are largely or wholly government financed, with the added advantages that official status gives to work of this kind.

Here, then, in the Consumer Council is a tool well fitted to the job of guiding and informing the shopper, of encouraging the manufacture of reliable goods, of initiating needed improvements. But a tool needs energy behind it: and only the shoppers, for whose benefit it was devised, can provide the necessary impetus to make it a success. The signs are promising: in its first six months, 5,000 people as well as several hundred groups have joined.

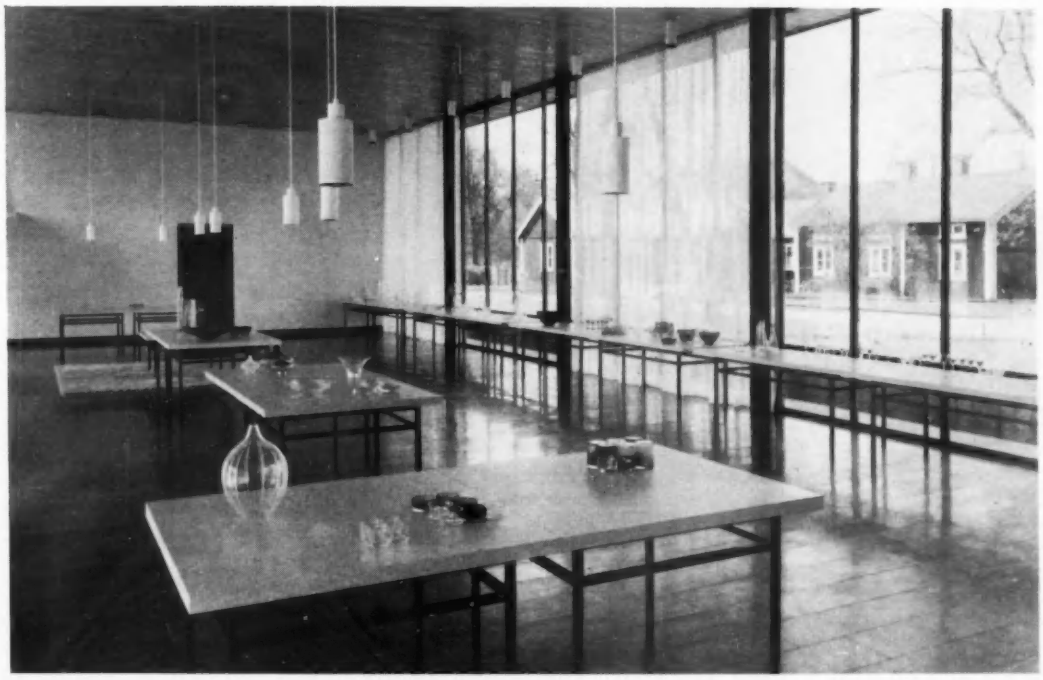
The Consumer Council's members

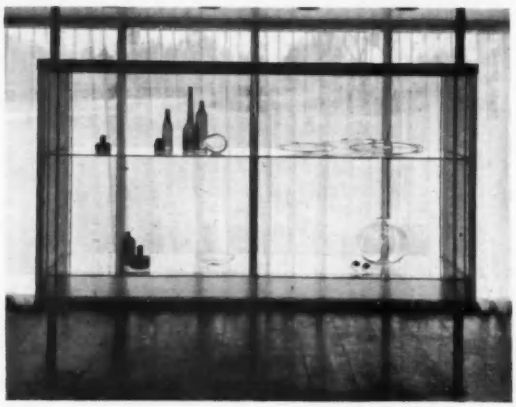
The BSI Consumer Advisory Council was set up to speak for the general public, the unorganised consumers of the country. Its members, listed below, are therefore chosen to provide a cross-section of people with special knowledge of consumer needs. There are the members of women's organisations (chosen by the BSI Women's Advisory Committee) – consumers pure and simple. Then there are the people whose business it is to know what the consumer wants, and to translate it into the terms of trade – retailers and wholesalers, market researchers, economists, broadcasters and journalists. No manufacturers are members, because the council must speak with undivided voice for the consumer, and because through BSI it is already in touch with every section of industry.

Dr Mark Abrams, Research Services Ltd
Colin P. Baird, director, T. Baird & Sons Ltd
Mrs M. Byrne, Business and Professional Women's Federation
Mrs Howard Cusworth, Northern Ireland Women's Institutes
J. F. Dixon, managing director, J. F. Dixon Ltd
Miss Ruth Drew, broadcaster on domestic subjects
Sebastian Earl, joint managing director, Selfridges Ltd, and chairman, Retail Trading Standards Association
Roger Falk, director, Marketing Development Co Ltd
O. H. Frost, chairman and managing director, Robinson & Cleaver Ltd
Mrs D. Harris, Women's Voluntary Services
J. D. Hiscock, assistant general secretary, Union of Shop, Distributive & Allied Workers
Graham Hutton, economist, journalist, consultant
Miss Marghanita Laski, author, critic and journalist
Miss Joyce Marsh, Business and Professional Women's Federation
Miss B. Naish, Royal Society for the Prevention of Accidents
Ralph E. Perring, chairman, London Bedding Centre
Mrs Norah Phillips, National Association of Women's Clubs
Roy Pochin, National Chamber of Trade
Mrs Ethel Van Praagh, Federation of Soroptimist Clubs
E. J. Riseley, managing director, G. Rushbrooke Ltd
R. Southern, director, CWS Ltd

overseas review

Sweden: showroom for glass





DESIGN correspondent EVA RALF

THE LEAD that has long been given by the Scandinavian countries in the use of glass as a medium capable of exquisite subtleties of expression, has a logical counterpart in their methods of display, which allows few distractions from the object that is to be shown. This desire to concentrate all attention on the qualities of the exhibit itself, rather than its setting, is admirably demonstrated in Bengt Gate's new exhibition hall at Orrefors Glassbruk. All colour has been ruthlessly excluded and the austere display frames and tables create a black and white environment for the sparse exhibits. This environment is noticeable only because one is conscious of the architect's skill in attempting to make it unobtrusive.

Adjacent to the main hall, where modern glass from the firm's ranges is on show, there is a small museum where historical pieces are displayed.

1 The main showroom.

2 The exhibition hall at the Orrefors factory. The architect was Bengt Gate.

3 Edwin Ohrström preparing a display of his abstract glass sculptures for the showroom.

4 A showcase in the main hall displaying glass designed by John Selbing.

overseas review

Italy: unit bathroom

DESIGN correspondent LETIZIA PONTI

THE ARTICLE on pages 34–38, which discusses components from prefabricated building systems, has obvious long term implications for domestic housing and raises important issues on the question of easy-to-install, factory-made interior equipment. One recent development of particular interest is the experimental prefabricated bathroom unit illustrated here.

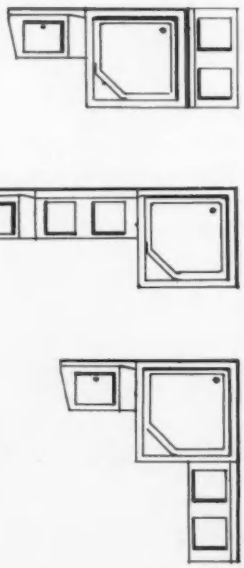
Designed by Alberto Rosselli in conjunction with the Plastics Research Institute at Castellanza, and built by Blocchi Togni, the new unit is constructed from moulded polyester/glass sections and consists of a washbasin, bath, WC and bidet. Unlike other moulded bathrooms which have appeared from time to time, this unit is designed so that the sections can be fitted together in a variety of ways to suit different houses. The plumbing which is concealed behind the back panel is also arranged as a series of complete sections to accommodate these variations of plan.

Readers may like to compare this unit, shown at the eleventh 'Triennale', with the plastics bathroom for the Monsanto 'House of Tomorrow' to be illustrated in DESIGN next month.

This view shows the large mouldings beneath the fittings and behind which plumbing is concealed.

The back of the unit seen in the works of Blocchi Togni.

The complete unit consisting of basin, WC, bidet and hip bath. Colour is red for top surfaces and backplate, white for inside of basin, etc, and also for the complete under moulding.



Three of the arrangements that are possible with the basic sections.

Miscellany

A case for the pillory

Stamps have developed from simple fiscal instruments to elaborate means of publicising national creeds, economics and developments, and as such a high standard of design should be the rule rather than the exception. Unfortunately the issues marking the 46th conference of the Inter-Parliamentary Union are a fair example of mediocrity in our official stamp designs. A 'lettering artist' was asked to add the required inscription to the ordinary 4d stamp with the deplorable results seen in 1. Lettering of a typically Victorian character, the curious position of '46th' tucked beneath the Queen's chin, not to mention the attempt at balancing Parliamentary (13 letters) with Conference (10 letters), reveal a fundamental inability which should certainly not appear on postage stamps. When reduced to actual size, the lettering virtually disappears, especially on machine-postmarked copies, and the purpose of the stamp is entirely defeated.

1

Lynton Lamb's airletter design, 2, is more satisfactory, but the placing of the denomination in a solid circle mounted on a plinth, and the attempt, although not wholly unsuccessful, of balancing the Queen's portrait with a view of the Houses of Parliament is unfortunate. However, Reynolds Stone's lettering is excellent, and the idea of a pictorial design, if only to quiet parliamentary opinion, should be welcomed.

EDGAR LEWY

2

A place for the post

For some time, it has become increasingly evident that most of the letter-boxes, or, to give them their official name, 'postal letter-plates', fitted to the majority of private houses are inadequate.

Soon after his appointment as Postmaster-General, the Rt Hon. Ernest Marples accompanied a postman on his round to examine for himself actual working conditions. In this way, he was able to see at first hand the inconvenience caused by small and often badly located letter-plates, and the consequent delays in delivery. As a result Mr Marples sought the assistance of the CoID to help remedy the situation.

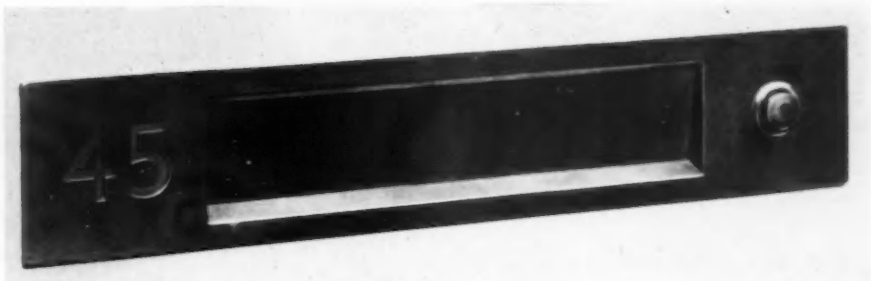
A meeting between representatives of the CoID, the GPO and the British Standards Institution was arranged, to discuss the introduction of a larger letter plate. It was agreed that rather than sponsor a limited number of special designs, a greater service would be rendered to the public, and to manufacturers, if a new performance and dimension standard was produced and industry encouraged to design to meet it.

A new standard was drafted by the Hardware Committee of the BSI, on which the CoID and the GPO were represented, which would leave a good deal of scope for individual design; the principal requirements being that the aperture should be 8 inches by 1¾ inches (not wide enough for DESIGN magazine unfortunately), and that the flap loading should be a happy compromise between the need for having a strong spring to prevent rattling in high winds and a light pressure for the postman's convenience. Another important dimension to be controlled is that of the centres of the fixing bolts, thus enabling letter-plates of various patterns to be fitted to pre-prepared doors.

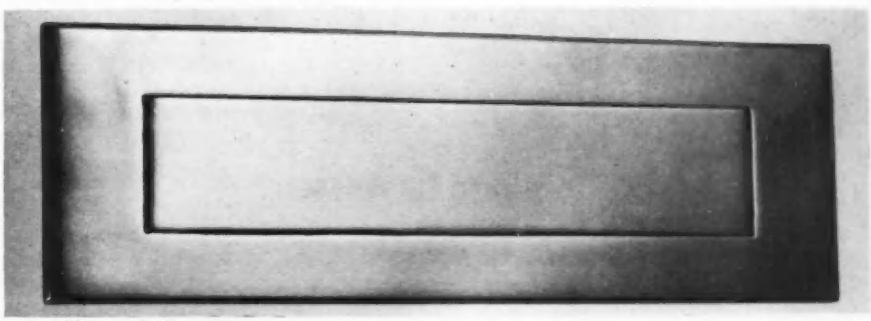
The CoID invited manufacturers to submit samples of any new products meeting this specification to the 'Design Review' committee, and those accepted form part of a special exhibition in The Design Centre, arranged to coincide with the GPO's display at 'the Building Exhibition' (November 13–27).

The accompanying illustrations show production samples or prototypes of new letter-plates which fulfil the BSI specifications. It is appreciated that existing installations can only be remedied by the co-operation of the householder, and it is anticipated that architects concerned with housing schemes will use letter-plates to this new standard, and at the same time, place them in a reasonable position rather than in some of the inaccessible locations that have been adopted in recent years.

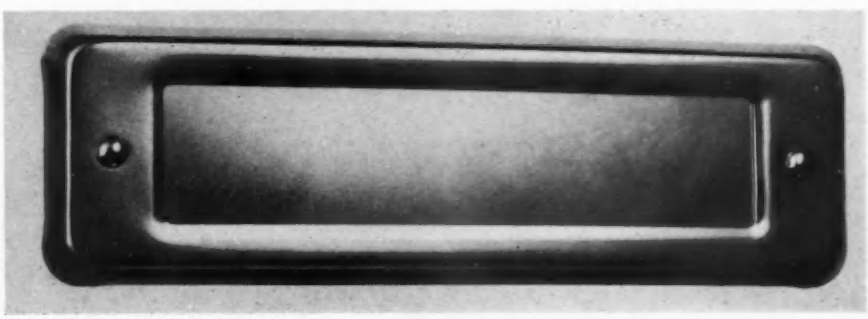
PETER WHITWORTH



DESIGNER *Roger Peach* MAKER *Dryad Metal Works Ltd*



MAKER *Bloore and Piller Ltd*



MAKER *Taylor, Reid & Co Ltd*

NEWS

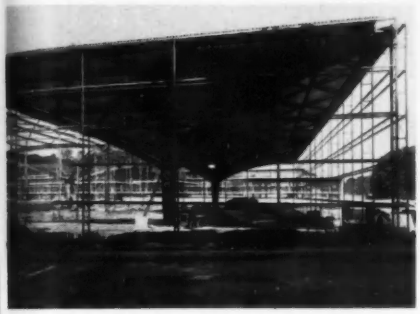
PROGRESS REPORT

Brussels International Exhibitions

DESIGN *will be making a series of reports on various aspects of the 'Brussels Universal and International Exhibition' between now and April 1958 when the exhibition opens.*

The British Industries Pavilion designed by Edward D. Mills & Partners with Felix J. Samuely as consultant engineer is in a fairly advanced stage of construction, as our picture shows (see also page 37).

The pavilion, which was commissioned direct from Mr Mills by the Federation of British Industries on behalf of British Overseas Fairs Ltd, will contain display stands of individual industries; it is the only national pavilion organised by the industries themselves in the whole exhibition.



The British Industries pavilion under construction

John Lansdell, in addition to designing a number of the displays in the industries pavilion, is responsible for the overall co-ordination of the interior design. The stands themselves range in area from 100–5,000 sq ft and are of widely differing heights. To obviate the effect of disunity that might result Mr Lansdell has standardised the colour schemes and the display faces throughout. He believes this will be sufficient to create a unity, while allowing the individual designers their heads.

PEOPLE

Edward D. Mills, designer of the British Industries pavilion.

Mr Mills, who is a member of the RIBA council, worked in a number of offices, including those of E. Maxwell Fry and Walter Gropius, prior to forming his own practice in 1937. He was awarded the RIBA Alfred Bossom Research Fellowship in 1953. He is known also as the author of several books on architecture, both technical and critical, in particular 'The Modern Factory' 1951 and 'The Modern Church' 1956, published by the Architectural Press Ltd. At present Mr Mills is engaged upon designs for a cathedral in the upper Nile diocese of Uganda.

John Lansdell the co-ordinating interior designer of the British Industries Pavilion at the 'Brussels International Exhibition'.

Mr Lansdell studied on a scholarship at the Polytechnic School of Architecture, Regent Street, London. He worked on designs for 'The Woman's Fair' held before the war at Olympia. After the war, during which he served with the RAF, Mr Lansdell decided to concentrate on exhibition design and he has been concerned with a number of large scale exhibitions, particularly those held at Earls Court and Olympia.

Irish designer's visit to CoID

Mrs Gerd Hay-Edie, the Irish textile designer, seen here in The Design Centre on a recent visit to the CoID. She had some rather trenchant comments to make on the attitude in this country to craft based industries, particularly their relationship to mass production. Mrs Hay-Edie has a hand-loom mill in Newry, N Ireland where, with the aid of a small staff, she designs and manufactures textiles, mainly on a contract basis. She feels that quite a large number of people in this country have a rather sentimental view of such craft based industries as her own, a view which is doing nobody very much good. Her own attitude is that the craft based product is complementary to, and not in competition with the mass produced product, and that the two exist in a reciprocal relationship. For instance she thought that hand-loom experience would be of immeasurable value to anyone ultimately intending to design for mass production. Mrs Hay-Edie said she had a horror of those people who asked her "whether she had spent happy hours at her loom".

Mrs Hay-Edie's designs are used by S. Hille & Co Ltd, as furnishing fabrics, and by Sybil Connolly, the Irish couturier.

Award for Scottish designers

Two young Scottish tweed designers, T. Crichton Scott, of the Galashiels firm of William Brown, Sons & Co Ltd, and James R. Hume, of Gibson & Lumgair Ltd, Selkirk, have been awarded travel fellowships by the International Wool Secretariat. During an eight week tour of the Continent, they will study colour trends and manufacturing methods in Sweden, Denmark, Italy, Switzerland and France; all important markets for Scottish woollens.

REPORTS & CONFERENCES

FBI takes the lead

The Federation of British Industries is to be congratulated for its part in organising a one-day conference to discuss the problems associated with the training of designers. Representatives of the industries concerned (furniture, pottery, printing and textiles) and of various art schools attended the conference where they heard Sir Edward Boyle, Parliamentary Secretary to the Ministry of Education, congratulate the FBI on this step in industrial and educational co-operation, and stress the importance of design in the growing competition in foreign markets.

The discussion groups reached a remarkable unanimity on major points. All groups agreed that industry must work closely with the schools, both in providing industrial experience and in advising the schools on the type of designers industry requires. The student designer was reminded that he must work as a member of a team, bearing in mind the technical and commercial problems involved in production. It was agreed that the status of the designer in a firm should be considered in the same category as that of a university graduate, providing he has had a good general education prior to his art school training. It was also generally agreed that art schools could not be expected to give all the technical training required – this was better provided by individual manufacturers after taking on a designer. The importance of training students to appreciate the commercial problems involved in manufacture was stressed together with the need for teachers who had industrial experience.

Photo-elasticity and stress analysis

A series of weekly lectures on the theory and methods of photo-elasticity, with particular emphasis on its applications in stress analysis, is being held in the department of Civil and Municipal Engineering of University College, London, from October 1957–September 1958. The series is designed for workers in industrial research laboratories, and for teachers in

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NEWS

engineering colleges, but there are a few places available for students able to spend one or two days a week on practical laboratory work. Applications should be addressed to The Secretary, University College, London, Gower Street, WC1.

Modular Society meetings

The Modular Society has arranged the following public meetings for the remainder of the year.

December 5: A paper on modular furniture, by John F. Hard managing director of D. Meredew Ltd.

Royal Society of Arts, 6 John Adam St, WC2, 7.30 p.m.

December 18: Conversazione and informal display of members products, preceded by an annual general meeting. The Building Centre, 26 Stone Street, WC1.

Lectures on architecture

The Illuminating Engineering Society is holding the following series of lectures on architecture at the RIBA, Portland Place, London.

November 7: A review of present architectural thought and trends, by H. T. Cadbury-Brown.

November 14: School design, by D. L. Medd.

November 21: Modern planning trends in office buildings and factories, by John Bickerdike.

November 28: Planning the interior: the expression of current ideas and requirements, by Brian P. Westwood.

Duke of Edinburgh's study conference

The proceedings of HRH the Duke of Edinburgh's study conference on the human problems of industrial communities within the Commonwealth and Empire, held at Oxford last year have now been published by the Oxford University Press in two volumes at 42s. The first volume, which contains an introduction by the Duke of Edinburgh, is a report of the conference and of the 20 study groups that formed its working units. The second comprises 25 background papers specially written for the conference. DESIGN readers will be interested to note that Sir Hugh Casson is one of these contributors; his subject was 'The Look of Industry in Britain'. It is encouraging to find designers rubbing shoulders with industry on its own ground, and that some consideration of aesthetics is understood to form an important part of the study of human relationships in industry.

Anniversary cards

The Queen of spades, one of the court cards from a new pack of playing cards designed by Jean Picart le Doux, which Thomas De La Rue Ltd has brought out to mark the 125th anniversary of the first typographically printed card.

American craftsmen's conference

The American Craftsmen's Council recently organised its first national conference which was held at Asilomar in California. One of the themes discussed was design and the relationship of crafts to industry. Among the speakers at this particular session were Jay Doblin, president of ASID and director of the Institute of Design, Chicago; Daniel Defenbacher, president of the California College of Arts and Crafts; and Charles Eames, the industrial designer. The American Craftsmen's Council hopes that the conference will become an annual event.

COMPETITIONS

Gold, silver and jewellery industries

The Design and Research Centre for the Gold, Silver and Jewellery Industries, in collaboration with its Birmingham Regional Design Council, is organising a national design competition open to trade, and free lance designers, instructors and students. Closing date for receipt of entries is March 1, 1958. Full details from St Dunstan's House, Carey Lane, EC2.

Prizes for pewter

A competition for design and craftsmanship in pewter, open to all students in art schools in the United Kingdom, has been organised by the International Tin Research Council. Prizes will be awarded for the best entries which must be designed by students during the school terms between September 15 1957, and March 31 1958.

Sir Albert Richardson, past president of the Royal Academy, Henry Rushbury, keeper of the Royal Academy Schools and Robin Darwin, principal of the Royal College of Art, have agreed to judge the competition. Enquiries to Tate Gallery 2316/7.

MISCELLANEOUS

NRDC's new chairman

The President of the Board of Trade has appointed W. R. Black chairman of the National Research Development Corporation, in succession to Sir Alan Saunders who died in February. The corporation was set up by the Government in 1949 to develop and exploit inventions resulting from public research, and those inventions which are not being taken up by industry, but which the corporation considers should be assisted in the public interest.

Economic aid through design

Design Research Inc, an affiliate of the Dave Chapman industrial design firm, has been awarded a contract for technical assistance to Iran by the International Co-operation Administration of the United States Government.

A six months preliminary survey is to study the handcraft and textile industries of Iran to recommend improvements in both internal and export markets through more diversified, better designed, and better marketed products. The Iran project is the eighth such survey to be undertaken by the Chapman office. San Salvador, Surinam, Costa Rica, Mexico and Jamaica were covered in 1956 by Mr Chapman, who is a Fellow of the American Society of Industrial Designers, together with a craft specialist from his office. Pakistan and Afghanistan were visited in 1955, '56 and '57 by a similar team. Two of the three members of the design research team, Roy Ginstrom, a craft design specialist, and Frank Carioti, a market analyst, have begun work in Iran. The third member of the team, a craft specialist, will join them later.

The millionth visitor

The Design Centre recently welcomed the millionth visitor since its opening in April 1956. She was Miss Kathleen Farr of Wanstead, London. To mark the occasion she was offered the choice of anything in the Centre to the value of £25. After consulting 'Design Review' the CoID's photographic index of well designed goods, Miss Farr chose Royal Doulton's 'Sweetheart Rose' dinner ware.

This month's cover

This month's cover was designed by Reginald Mount. Mr Mount trained at Layton School of Art and worked in advertising agencies before the second World War when he designed posters and publicity material for the MOI. He now designs posters for the COI and for Ealing Studios.

Non-destructive testing

As the result of recommendations put forward by a sub-committee of the Joint Committee on Materials and Their Testing, a British national committee for non-destructive testing has been set up. Applications for membership of the national committee are invited from institutions or societies with interests in non-destructive testing. The subscription is five guineas per annum. Applications, provisionally, should be addressed to the secretary, R. Main, 1 Birdcage Walk, Westminster, London SW1.

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NEWS

LETTERS

British designs in East Berlin

Posters, magazine covers, press advertisements and record sleeves were on view at the Exhibition Centre, East Berlin recently, when the SIA organised an exhibition of British advertising art, at the joint invitation of the Society for Cultural Relations with Countries Abroad, and The German Society of Artists. Called 'Gebrauchsgraphik aus England' the exhibition, which is at present on tour in East Germany, represents the work of some 34 designers including Edward Ardizzone, David Caplan, Barbara Jones, Clifford Hatts, F. H. K. Henrion, and Hans Schleger.

The exhibition in East Berlin was opened by Professor Hans Balzer, a leading poster designer, and the public was invited to comment on the exhibits on questionnaire forms provided. It is hoped that a return show of German graphic work can be arranged in London.

The poster, designed by David Caplan for the East Berlin exhibition of British advertising art, discussed above.

Addition to townscape

The Minister of Transport and Civil Aviation has approved the scheme of Durham County Council to install permanent television equipment for traffic control in the Market Square, Durham. At present a policeman stationed in the square has to control traffic he cannot see.

Television cameras will now be installed at the bridges leading to the square and will transmit a picture to a monitor in a control box. They will enable the officer on duty to see, not only the amount and kind of traffic waiting, but also whether there is any congestion caused by stationary or parked vehicles.

This new method of traffic control was successfully tested in August 1956 by Durham County Council, and plans are now under way for its permanent installation.

Industrial design at Glasgow

As a result of recommendations made by the West of Scotland Regional Advisory Council on Technical Education, the existing course in industrial design at Glasgow School of Art has been greatly improved, and the re-organised course is now in operation. The course takes the 'sandwich' form familiar in technical training schemes. At the end of a two-year general course the student begins the specialised part of his training. Innovations include the provision of three periods of factory experience dealing with production methods in wood, metals, and plastics respectively, each period lasting approximately three months, and four new series of lectures and exercises. The materials studied under factory conditions will be the subject of three of the lecture series, which will be given at the Stow College of Engineering and the Royal College of Science and Technology. The fourth lecture series will deal with engineering drawing. All these activities will take place in the student's third year (ie, his first year in the specialist course). His fourth year will be devoted entirely to advanced exercises, the production of prototypes, and the study of aesthetics, with the emphasis more on design than on industry.

Scottish scholarship in industrial design

The Trades House of Glasgow has made available £1,000 from its Commonwealth Fund to the Glasgow School of Art to found The Trades House Travelling Scholarship in Industrial Design.

LETTERS *to the Editor*

Absent again

SIR: Once again, at this year's 'Triennale' in Milan, the world's foremost exhibition of contemporary design, Britain is one of the few countries *not* officially represented. Surely it is deplorable short-sightedness on the part of the Government and industry to pass up such an opportunity of showing to the world that there are many British designs capable of standing comparison with those of other countries.

When one sees the splendid efforts made even by smaller nations such as Jugoslavia, Mexico, and the Scandinavian countries, it is heart-breaking to find that the British Government, which talks so much about the importance of our export drive, fails so abominably to practise what it preaches.

That we in this country can be justly proud of many of our design efforts was proved at the last 'Triennale' (also not supported by the British Government, but at least by some individual British firms) when several of the top awards went to British designs.

How much longer must we wait before the responsible official organisations and private enterprise awaken to the fact that participation in international exhibitions plays an important part in promoting goodwill? It is one of the few fields of friendly international competition in which we can still participate successfully.

W. M. DE MAJO
33 Jubilee Place, SW3

Larger letter boxes

SIR: It is interesting to note from recent reports in the Press that the CoID will be consulted about the design of a bigger domestic letter box.* Apart from the design itself, however, it would seem that some instruction may be necessary to postmen if full use is to be made of this larger aperture.

About a year ago I installed the largest box which I could buy, measuring slightly over 12 inches long. The main purpose of this was to ensure that magazines such as DESIGN would not be folded and thereby spoilt. Despite this precaution, the larger journals always arrive folded up, simply because this makes them stiffer and more useful for pushing open the flap.

It would appear that in order to avoid this, the flap should open outwards, which would also provide a better cover from the weather. It does, of course, mean that two hands are necessary and this may be inconvenient to a postman under certain circumstances. Some research may therefore be required, followed by co-operation from the Post Office if the best results are to be obtained.

R. M. KAY
Industrial Design Engineer
Metropolitan-Vickers Electrical Co Ltd
Manchester 17

*See 'Miscellany', page 67 for results of recommendations.

Sure signs

SIR: In the light of experience gained on a recent European tour, I should like to support very strongly Noel Carrington's pleas for a reform of British road signs (DESIGN July page 54). Comparing British and European signs one can say, broadly speaking, that Continental signs are so well designed and placed that one has no need of a map, where as signs in this country

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Suburb house style

Readers may remember the item in DESIGN *for November 1956, page 63, which illustrated the winning symbol designed by Michael Darke for the Hampstead Garden Suburb Jubilee. At that time it was hoped to co-ordinate the design of all publicity for the jubilee and the results shown above prove that the aim has been fully justified.*

are on the whole so badly placed (e g generally far above the beam of a dipped headlight), and so illegible, that one has to stop to read them, and then get out the map to find where the 'A' such and such really goes.

Surely signs on main roads should be so designed and placed that the driver of a car approaching at 60 mph, day or night, should be able not only to discern which is his correct route, but also to take up an appropriate position by the time he reached the junction.

If I may compare Mr Carrington's design with that of European ones, it is marred I think by his retention to some extent of the Ministry's formality. Continental signs are pictorial in that they show exactly the shape of the junction. This exactness increases the information content of the sign, and the speed with which it can be read and acted upon.

A further criticism is that the visibility of his sign at night would be improved by adopting the Continental system of drawing the roads and the lettering in white on a black or dark blue background, the white portions being coated with a reflective material. By this means the contrast is maintained by day, and the information itself, and not the sign as a whole, is illuminated at night.

D. C. PRESSEY
Park Gate
London Road
Bagshot, Surrey

BOOKS

The new landscape in art and science
Gyorgy Kepes, Paul Theobald and Co, Alec Tiranti Ltd, £5 10s

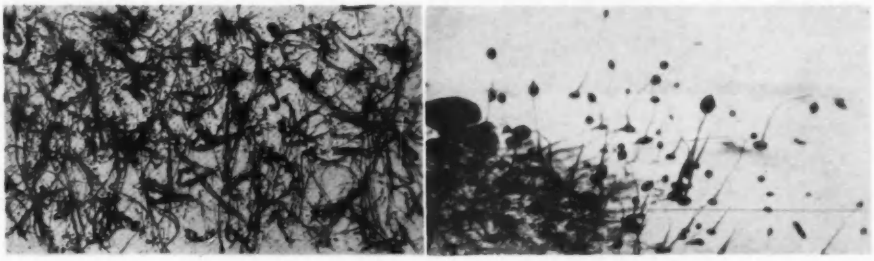
Thinking is surprisingly dependent upon the visual faculty; wherever the concept *form* – the number, order and position of things – is involved, a visual understanding is a valuable supplement to other modes of thought. Scientific research into the structure of our universe throws up much visual material as a by-product; photography and electro-optical techniques which funnel invisible phenomena into the comparatively narrow channel of human vision have created a vast body of imagery yet to be assimilated into "the language of vision".

Gyorgy Kepes' appointment as professor of visual design at the Massachusetts Institute of Technology placed him at one of the great centres of technological research and the impact upon his acute visual sensibilities resulted in, first, an exhibition staged at MIT, and now a book, both entitled 'The New Landscape'.

The book is nothing if not ambitious; apart from the 453 marvellous illustrations which form its main interest there are 10 chapters of intense writing by Kepes; 17 short articles of uneven quality all by ranking contributors such as Norbert Weiner, Siegfried Giedion and Jean Arp (among them a brilliant essay by Paul Weidlinger). In his reluctance to miss a chance the author has lavishly sprinkled extensive quotations from a wide range of sources throughout the book; all this plus Foreword, Preface and Introduction, yet the design and typography are by Kepes and every page is treated with meticulous love.

It will seem ungrateful to suggest that the book falls short of success; in attempting to embrace the whole of our visual world the text speeds confidently over aeons of history and touches upon an encyclopaedic welter of subject matter. Though Kepes recognises the danger of making purely visual analogies he uses the method extensively and lays claim to its value – the book is, in fact, an act of faith in the artist's ability to attain the *Gestalt*, the unique and whole truth, in a direct response to natural phenomena. It is this aspect of the work that I would question. I am less than sure that Art is the key. However, the 'digest' manner of the varied text combined with the titillating appeal of the plates make it the ideal bedside book for the visual man.

RICHARD HAMILTON



Two illustrations reproduced from 'The New Landscape in Art and Science', by Gyorgy Kepes; right, Painting No 32, 1950, by Jackson Pollock and left, photomicrograph of slime mould, by Dr R. Vishniac.

Function and form
Industrial design in the Netherlands, Alec Tiranti Ltd, £2

This book, well presented in four languages, is the first of a series of reviews to be published by the Institute of Industrial Design in Amsterdam, an organisation which was formed in 1950 to improve liaison between manufacturers and designers, and raise the standards of design of Dutch manufactured goods. The institute now considers that enough evidence of good design practice has been documented to enable this photographic survey of products to be published.

From the selection of glassware, ceramics and kitchenware, it becomes obvious that Holland has plenty of designers in these craft-based industries, and one would normally have to look to Scandinavian sources to find a similar high standard of design.

However, many of the mass produced appliances are unnecessarily burdened with large radiused curves and ribbed or linear decoration, showing little of the better American influences which have raised design standards in some European countries. In one industrial vacuum cleaner there has been a careful integration of components which would make it very competitive in overseas markets. The examples of stainless steel utensils on page 46 of the book could be examined by our own industry for their classically simple form based on fitness for purpose.

Although the editors state that they have concentrated on three dimensional objects the standard of graphic design is unquestionably the high point of the review, and those connected with advertising in this country would find stimulus in the collection of layouts in the advertising section where, but for one exception, each product is individually treated. This is usually considered to be impractical from the advertiser's point of view, but it seems to be most effective in this case.

The danger of a selection such as this book presents lies in the assumption that it gives a valid cross section of current trends in Dutch design. It may be truer to say that it represents a carefully chosen collection of items to the taste of the editors, which passes over some of the more prevalent commercial designs. For example, the radio cabinets show none of the heavy black and gold vernacular which is having such unfortunate influence on the British radio industry, but which has been the main output of one large Dutch electrical combine for years.

NIGEL CHAPMAN

Copyright and performing rights
W. J. Leaper, Stevens & Sons Ltd, 25s

Among the first few handbooks on the Copyright Act 1956 is this 219 page work by W. J. Leaper, barrister-at-law, and a glance through the table of contents suggests that this handbook might be a useful addition to the library of anyone interested in industrial design, since it includes a 22-page chapter on this very

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In the stocks

Why is it that the organisers of trade fairs are so often indifferent to the appearance of their publicity material? This is a fairly typical example, rendered more unfortunate by the patience that has obviously gone into its creation.

BOOKS

subject and has a good index. What readers of DESIGN will wish to know, however, is how far this book will help them in understanding the important changes made by this new Act in the law affecting industrial designs. Unfortunately, the answer seems to be "not very far". Mr Leaper has quoted from Hansard to illustrate some points and has attempted to explain others in his own words. The Hansard quotations at least show what the Government *intended* to enact, but some of the author's own explanations, especially when dealing with Section 10(1), are more confusing than helpful. For example, near the end of page 86, he uses the expression "infringement of the copyright in the *industrial design*" when presumably he means "infringement of copyright in the *artistic work*", and then uses the word "permissible", without qualification, in refer ing to what unlicenced persons may not do. Later he outlines certain circumstances in which there would indeed be no infringement of a *registered design*, but not as he suggests because of Section 10(1) which is concerned with non-infringement of *artistic copyright*. Not content with this, he goes on to summarise the effect of Section 10(1) (b) by a sentence beginning "In other words . . . . ", which is altogether baffling.

Mr Leaper's handling of Section 44 is less ambitious and more successful, but the general impression gained from reading his book is that it will be most useful to those whose interests are farthest removed from industrial designs.

Rotaprint colour guide of printing inks

Available to customers, free of charge, from Rotaprint Ltd, London NW9

This book, part of an after-sales service by the manufacturer of small litho machines, is sent to all customers, many of them printers in the amateur sense, to help them to get more professional results from their machines. The colour pages are loose leaf, each a different colour of standard 'Rotaprint' ink showing its use for illustrations, as well as tints and solid colour including overprinting of positive and negative typematter. Most of the 57 colours are strong – few are subtle. The illustrations, with few exceptions, do not stimulate the printer to aim at a high standard of drawing or photograph for his work, and so a good opportunity is missed. The notes which precede the colour pages are valuable, but are set too small for an ageing printer to read.

PETER HATCH

Sculpture in paper

Bruce Angrave, The Studio Ltd, £1 5s

Bruce Angrave's well illustrated book, written with great gusto and wit, is an excellent introduction to paper sculpture. Starting with an historical chapter which traces this craft way back to the Mayas and the Chinese, he proceeds to describe in detail his own methods of work and ends by reviewing that of a number of other artists. The revival of paper sculpture was largely due to a group of Polish artists, which a generation ago became fascinated by the use of paper in Polish folk art. They were neither the first nor the only ones to sculpt in paper but it was their line and style that became predominant all over the world.

The contribution of this school – that, I suppose, is what one ought to call these Poles and their international following – consisted in devising a number of new and ingenious ways in which paper could be scored and folded. In consequence, the scope for using paper to express three dimensional subjects became, as Mr Angrave's illustrations prove, practically unlimited.

Whether this excessive expansion of the technique is really a good thing remains to be seen. The thrill of expressing complicated subjects in the elementary shapes natural to paper seems to have largely vanished. What we are getting instead is a kind of ornate academic verbosity. We are no longer presented with improvisations in a flimsy material but with over-elaborated monumental works the paper surface of which conceals intricate skeletons joined together by nuts and bolts. It is all slightly reminiscent of a chef's efforts to make a model of the Eiffel tower out of spinach, and is acceptable only to people who approve of the old German rule: "Why make it simple, if it can be made complicated".

GEORGE HIM

Photography

Eric de Maré, Penguin Books, 6s

Photography is essentially the art of fixing in two dimensions, in tones graded between white and black, any subject the eye may fancy. Choice of equipment, film, paper, and chemicals are merely a set of linked factors, which will control but not create the final result. Although many an aspiring photographer becomes too absorbed in gadgetry, technique and formulae, there is more to photography than buying a box camera and leaving the rest to the local chemist.

This book is divided into four parts: history and purpose; the camera and how to use it; processing, and colour. The historical sketch at the beginning is absorbing, and the chapter on composition should be read most carefully; the hundred or more plates are all refreshingly new to this type of book (with some very good examples of Mr de Maré's own work). Chapters on lens, shutter, diaphragm, and focusing are inspired in their simplicity; first principles are well explained, types of camera classified and accessories listed. In the later chapters however, the book becomes more complicated and less specific. Types of films, filters, ways of lighting, processing, printing and enlarging are described, but there are no suggestions on choice of equipment, and the amateur photographer may be bewildered by the number of special treatments described, that, in my opinion, only a breathtakingly important picture would deserve. Those who shoot off reels of 'Ektachrome' and 'Ilfordcolour' will be sobered by reading the last chapter and realising that their success is mostly due to tackling only a limited field in this very complicated branch of the art.

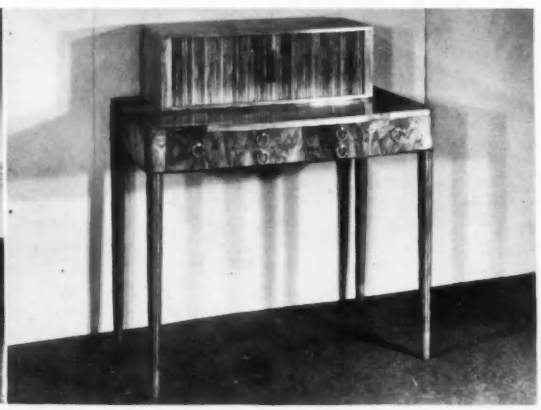
SAM LAMBERT

Electricity for everywoman

The Electrical Association for Women, 25 Fouberts Place, W1. 1d each (plus postage)

The Electrical Association for Women has published a series of brochures with the object of giving information on appliances and their use. There is a general leaflet called 'Electricity for Everywoman' and a series, some of which are not yet available, for the countrywoman, the teacher, the woman gardener, the nurse, etc. These brochures frankly have for their aim the sale of more electricity, and the appliances that go with it. However, they contain a great deal of useful information, and all of them have an electrical ready reference which will be of great value to men as well as women who are not familiar with electrical terms. Furthermore it enables the calculation of running costs, eg "Lighting – A 100 watt lamp will give light for 10 hours for 1 unit" or, "Ironing – over an hour's ironing can be done for 1 unit". Some of these figures

continued on page 79



Students' work on show

Leicester College of Art recently held an exhibition of students' work at Foyle's Gallery in London. While the standard of craftsmanship in the industrial design section was indisputably high, the designs themselves left something to be desired. In a good many cases, insufficient attention was paid to the relationship between texture and decoration on the one hand, and structure and function on the other (a common fault in some student design). Surely this is a further example of the need for a rigorous basic design course in art schools on a theoretical and practical level, where the student can learn for himself these important form/function relationships before he gets down to his particular craft. The two pieces illustrated are, left, a trolley for aerograph equipment by C. P. Triggs, and right, a writing table in English walnut and ebony by Barry Warner. They show admirably the difference between the straightforward, engineering job, built to the users' requirements, and the conscious-design-approach, where these basic issues have become clouded through an inability to break down the initial design problem.

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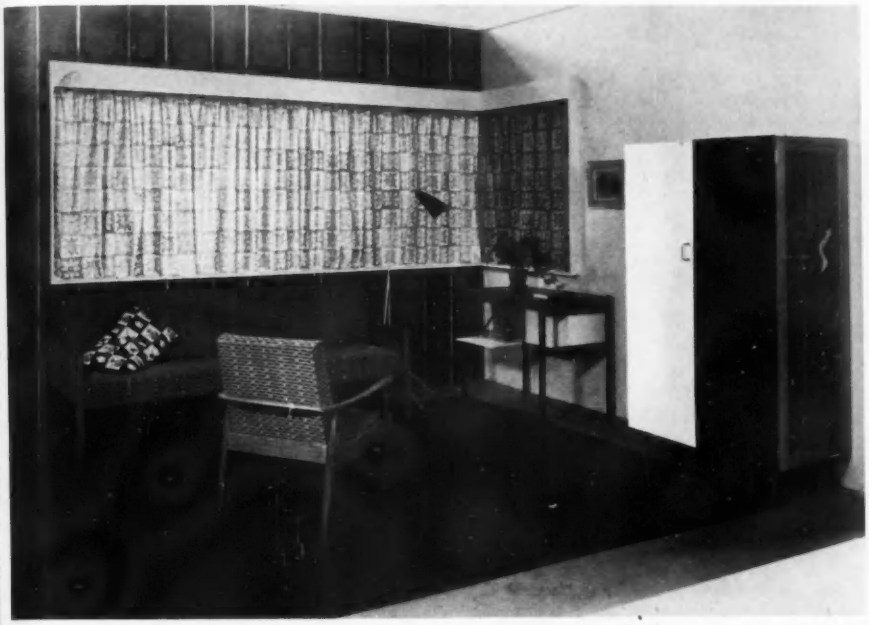

Furnishing college exhibition

The small display by students of the LCC Technical College for the Furnishing Trades, Shoreditch, gave an encouraging picture of the effect of more liberal studies in a technical college. Shoreditch students have always been noted for technical efficiency, but it is interesting to see their great improvement aesthetically – both in the design of the various pieces of furniture, and in appreciation of contemporary needs.

The exhibition showed a steady progression from first year exercises (including some surprisingly good life drawing and painting) to the central feature – a girl's bed-sitting-room, shown above, carried out by third year students in the furniture and soft furnishing departments as a group project. The furniture (including an extremely attractive bed settee) finished in a variety of ways was demountable for ease of transport.

The exhibition was designed by Bernard North and Bernard Gay, who, in addition to their teaching work in the college, both belong to the Design Research Group, whose members are drawn from inside and outside the college. Although much of the work has been carried out under direction, one feels that students will have opportunity and encouragement in this research group to carry out experimental and creative work. S.R.F.

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are necessarily vague, but I would hope to get two to three hours of ironing for my unit with a domestic electric iron.

'Electricity for Everywoman' should be in every household, and read by the men too; it gives a salutary warning on the use of the correct fuses, especially in fused plugs where it is fully up-to-date giving all four values. It is not however in any way an instructional leaflet as it gives no help to the woman who is unfamiliar with screwdrivers, fuse carriers, or flexible cables. The brochures are well laid out with sketches and each one has second colour. PETER E. M. SHARP

Contract furnishing

A quarterly journal for architects, designers, and purchasing officers, edited by P. A. I. Rogers, The National Trade Press Ltd, 3s

Contract work in this country always seems to be shrouded in secrecy. Architects, decorators and contractors are never willing to disclose sources of manufacture or supplies, and it will be interesting to see how 'Contract Furnishing' will approach this problem.

The Italian magazine 'Domus' and the American 'Interiors' are at he moment two of the most popular magazines in this field. They both have very high standards in the selection of work for illustration, so one hopes that the editor of 'Contract Furnishing', P. A. I. Rogers, will keep his sights aimed high.

I hope too that the magazine will give some prominence to the question of design plagiarism which is such an urgent problem today. It could also help with the purely administrative aspect of contract work – how and by whom material is ordered, and how discounts are arranged, etc.

This first issue is very promising and the magazine is to be wished every success. DENNIS LENNON

Books received

British Plastics Year Book 1957, Iliffe & Sons Ltd, £2 2s

Modern Market Research, Crosby Lockwood & Son Ltd, 15s

Science and the Nation, The Reith Lectures 1956, Sir Edward Appleton, Edinburgh University Press, 10s 6d

The Weaver's Craft, L. E. Simpson and M. Weir, The Dryad Press, Leicester, 18s 6d

Correction

DESIGN August page 34: the table shown in illustration 25 is by L. H. Laic, and not by A. H. Younger Ltd, as stated.

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Addresses of designers may be obtained from the Editor.

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MANUFACTURERS *requiring the services of designers, whether for staff positions or in a consultant capacity, are invited to apply to the Record of Designers, CoID, London, or to the CoID, Scottish Committee, 46 West George Street, Glasgow C2. They can obtain a short list of designers suitable to their particular purposes, which should be explained in some detail. This service is free to British manufacturers and incurs no obligation.*

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CITY OF STOKE-ON-TRENT EDUCATION COMMITTEE
COLLEGE OF ART
Principal R. H. Marlow, ARCA, FRSA, MSIA

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Application forms are obtainable from the Chief Education Officer, PO Box No. 23, Town Hall, Hanley, Stoke-on-Trent, to whom they should be returned as soon as possible.

H. Dibden, Chief Education Officer.

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EXHIBITION STAND DESIGNER required to replace talented artist returning to his native country. Send details of experience, age and aspirations to Managing Director, Autur Display Organisation Ltd, Park Lane House, 45 Park Lane, London W1.

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The salary is in accordance with the Burnham Technical Report, 1956 – £650 – £1,025 (men); £580 – £820 + 3/7ths differential (women), plus approved graduate, training and industrial experience allowances.
For further particulars and forms of application please send a stamped addressed envelope to the Principal, Royal Technical College, Salford 5, to whom applications should be returned as soon as possible.

R. Ribblesdale Thornton, Clerk to the Governors.

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